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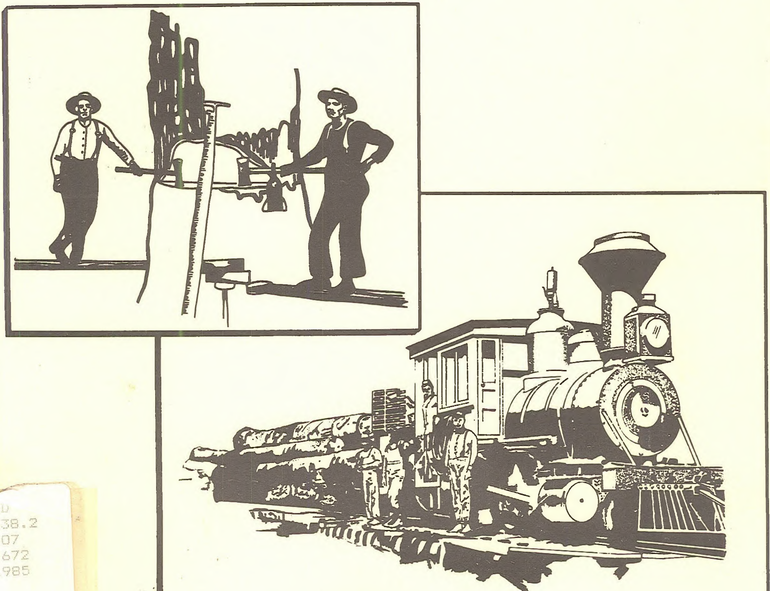
Josephine/Jackson-Klamath Timber Management

Supplemental Environmental Impact Statement



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BUREAU OF LAND MANAGEMENT

MEDFORD DISTRICT OFFICE
3040 Biddle Road
Medford, Oregon 97504

Dear Concerned Citizen:

Enclosed for your review is a final supplement to the Final Environmental Impact Statements (FEISs) for the Josephine and Jackson-Klamath Ten-Year Timber Management Plans. These final EISs were released in October, 1978 and November, 1979, respectively, and address timber management activities of the Bureau of Land Management's Medford District in southwest Oregon.

This supplement analyzes the environmental impacts of (1) an increase in clearcutting acreage with an associated decrease in shelterwood harvest acreage and (2) a shift in the criteria for determining the leave overstory in a shelterwood harvest system from the amount of stand basal area removed to leaving a desired number of trees per acre. Analysis indicates that under this change in ratio of harvest practices, there would be an increase in adverse air emissions from slash burning for the Josephine Sustained Yield Unit (JSYU). All other impacts would be similar or less than those addressed for the proposed actions in the final EISs. The purpose of the supplement is to present environmental and technical information for use in the decisionmaking process.

The draft supplemental EIS was filed with the EPA and made available to the public in October, 1984. The comment period was 60 days, ending December 21, 1984. This final supplemental EIS will be filed with the EPA and made available to the public on May 31, 1985. The comment period will be 30 days, ending July 1, 1985. Comments received after the close of the comment period will be considered until the time the decision is made. Your comments on the final SEIS should be sent to:

Mike Walker, Team Leader
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97504
Telephone: (503) 776-4604

Sincerely yours,

Hugh B. Shera

District Manager

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U. S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

FINAL SUPPLEMENT
to the
FINAL ENVIRONMENTAL IMPACT STATEMENTS
for the
JOSEPHINE AND JACKSON-KLAMATH
SUSTAINED YIELD UNITS
TEN-YEAR TIMBER MANAGEMENT PLANS

Prepared by

Bureau of Land Management
U. S. Department of the Interior
May, 1985

State Director, Oregon State Office

Bureau of Land Management
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DRAFT ( ) FINAL (X) SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT

Type of Action: Administrative (x) Legislative ( )

Abstract: The Josephine (J) and Jackson-Klamath (J-K) Final Timber Management Environmental Impact Statements (EISs) were filed with the Environmental Protection Agency (EPA) and made available to the public in October, 1978 and November, 1979, respectively. This supplement analyzes the environmental impacts of (1) an increase in clearcutting acreage with an associated decrease in shelterwood harvest acreage and (2) a shift in the criteria for determining the leave overstory in a shelterwood harvest system from the amount of stand basal area removed to leaving a desired number of trees per acre. Analysis indicates that under this change in ratio of harvest practices, there would be an increase in adverse air emissions from slash burning for the Josephine Sustained Yield Unit (JSYU). All other impacts would be similar or less than those addressed for the proposed actions in the final EISs.

The draft supplemental EIS was filed with the EPA and made available to the public in October, 1984. The comment period was 60 days, ending December 21, 1984. This final supplemental EIS will be filed with the EPA and made available to the public on May 31, 1985. The comment period will be 30 days, ending July 1, 1985.

For further information contact: Mike Walker, Team Leader
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FINAL SUPPLEMENT
to the
FINAL ENVIRONMENTAL IMPACT STATEMENTS
for the
JOSEPHINE AND JACKSON-KLAMATH SUSTAINED YIELD UNITS TEN-YEAR TIMBER MANAGEMENT PLANS

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for the
JOSEPHINE AND JACKSON-KLAMATH
SUSTAINED YIELD UNITS
TEN-YEAR TIMBER MANAGEMENT PLANS

SUMMARY

Introduction

The Josephine and Jackson-Klamath Final Timber Management Environmental Impact Statements (FEISs) were filed with the Environmental Protection Agency (EPA) and made available to the public in October, 1978 and November, 1979, respectively. These FEISs analyzed the environmental impacts of projected Ten-Year Timber Management Plans (TMPs) for the Josephine and Jackson-Klamath Sustained Yield Units (SYUs) in the Bureau of Land Management's (BLM) Medford District in southwest Oregon. This supplement to the FEISs was prepared to analyze the impacts of change in the ratio of current harvest practices compared to those analyzed for the proposed actions in the FEISs.

Description of the Action

This supplement analyzes the environmental impacts of changes in ratio of harvest practices which would cause, over a ten-year period, an increase in clearcutting (9,000 acres to 55,300 acres) with an associated decrease in shelterwood harvest (110,000 acres to 51,000 acres). Also analyzed is a shift in the criteria determining the leave overstory in initial entry of a shelterwood harvest system from that of 30 to 60 percent basal area removed to that of leaving approximately 8 to 12 trees per acre. The refinements of the District's management plans would not change the annual or decadal allowable harvest, and the silvicultural concept of even-aged timber management as described in the final EISs would be retained. This concept uses a combination of clearcutting and two-stage shelterwood systems for the high intensity timber management lands (lands that are capable of being reforested within five years of harvest) within each SYU. For the District, the adjustment in clearcut and shelterwood harvest practice ratios would result in a ratio of 52 and 48 percent respectively. Further analysis indicates that for the JSYU, clearcut harvest would account for 73 percent, and shelterwood for 27 percent. For the J-KSYUs, clearcut harvest would account for 36 percent and shelterwood for 64 percent. About 76 percent (74 percent of JSYU and 78 percent of J-KSYUs) of the increased clearcutting would be done in three-stage shelterwood areas created between the 1950s and 1970s. The remaining 24 percent (26 percent of JSYU and 22 percent of J-KSYUs) would be from initial entry clearcuts (see Table One, Appendix B).

Environmental Consequences

1. Air Quality: Changes in air quality impacts resulting from the changes described in the supplemental environmental impact statement (SEIS) are shown in Table Eleven of Appendix B. Comparisons between the JFEIS and this SEIS show

potential increases in emissions for particulates, carbon monoxide, and oxides of nitrogen. Comparisons between the J-KFEIS and this SEIS indicate that emissions would be reduced for particulates, carbon monoxide, and oxides of nitrogen.

2. Soils: The reduced level of road construction along with an increase in clearcutting and an associated reduction in shelterwood would result in a reduction in erosion from that analyzed in the FEISs. Soil erosion and productivity losses caused by an increase in acres to be burned in the JSYU would be offset by a reduction in burn intensity resulting from less fuel consumed per acre. The overall soil impacts of the proposed action would be less than those identified for the proposed actions in the FEISs.

3. Water Resources: The estimated ten-year water yields resulting from the change in ratio of harvest practices in the JSYU and J-KSYUs would be slightly greater than those estimated for the proposed actions in the FEISs. The increases would be undetectable and therefore no positive or negative impacts would be expected.

The change in ratio of harvest practices is not expected to have any effect on peak flows or low flows in either the JSYU or J-KSYUs. The SEIS shows a decrease in total sediment yield as compared to the estimated sediment yield for the proposed actions in the J and J-K FEISs due to a reduction in road construction and acres harvested. No change in impacts to maximum summer stream temperatures are expected as a result of the change in ratio of harvest practices because stream protection measures would remain the same as for the FEISs.

4. Vegetation: The change in harvest practice ratios would result in impacts less than those estimated for the proposed actions in the FEISs. There would be a decrease in harvest of 12,700 acres (9,000 acres for the JSYU and 3,700 acres for the J-KSYUs).

5. Animals: The change in harvest practice ratios would result in impacts to animals which are less than those estimated for the proposed actions in the FEISs. This is due to fewer entries, less total acreage cut, less road construction, and reduced human disturbance.

6. Fish: Changes described in the proposed action would result in less impact on aquatic habitat than was described for the proposed actions in the FEISs.

7. Recreation: The changes described in the SEIS would result in impacts which are less than those estimated for the proposed actions in the FEISs.

8. Cultural Resources: The changes described in the SEIS would result in impacts which are less than those estimated for the proposed actions in the FEISs.

9. Visual Resources: Visual resource impacts resulting from the changes described in the SEIS would result in greater short term visual contrast. However, overall impacts would be less than estimated for the proposed actions in the FEISs.

10. Special Management Areas: The changes described in the SEIS would result in no impact on special management areas.

PREFACE

Different estimates are identified in this final supplemental environmental impact statement (SEIS) from those identified for the proposed actions in the final environmental impact statements (FEISs) for Josephine and Jackson-Klamath SYUs. The differences are primarily attributable to the FEISs' estimates being full ten-year estimates whereas the ten-year estimates displayed in this final supplemental EIS are based on five years of actual accomplishments and five years of estimates (e.g., roads and air quality: Chapter I, Section D. and Chapter II, Section A.). Some impact differences also exist between the draft and this final SEIS. These differences are due to this SEIS incorporating more supporting data as a result of direct response to public comments on the draft SEIS.

The Josephine and Jackson-Klamath FEISs analyzed the expected environmental impacts associated with the Medford District's projected ten-year timber management plans that were implemented in October of 1979 and 1980, respectively. The prescribed harvest practices identified in the FEISs were predominantly two-stage shelterwood with some clearcutting. Shelterwood projections for the decade were based on site characteristics (e.g., soils, topography, and climate) and reforestation uncertainty, which was dependent upon treatments and technology then available.

The level of uncertainty with predicted reforestation success was manifested by the inclusion into the timber plans of a trial harvest program which incorporated BLM research and the regional Forestry Intensified Research (FIR) program involving many public and private organizations in southwest Oregon. The research and trial programs were designed to identify which harvest methods and reforestation techniques would improve BLM's reforestation success. The overall objectives of these programs are to improve reforestation success by using locally adapted forestry research integrated with fundamental research followed by information transfer and operational testing.

During the initial stages of implementation of the FEISs, BLM field operations and research results began to indicate that timber management objectives, on many of the District's intensively managed forest lands, could best be achieved by shifting to clearcut harvest on many acres previously entered for shelterwoods. The incremental application of new information and techniques took place through site-specific silvicultural prescriptions on a unit-by-unit basis.

I. ALTERNATIVES, INCLUDING THE PROPOSED ACTION (CHANGE IN HARVEST PRACTICES)

A. Purpose and Need

In accordance with the agreement of February 19, 1976, relative to the litigation in the U. S. District Court for the District of Columbia, entitled Natural Resources Defense Council, Inc., et al. vs. Thomas S. Kleppe, et al., Civil No. 75-1861, the Josephine and Jackson-Klamath Environmental Impact Statements (EISs) were prepared to analyze the impacts of timber management activities in the Medford District. The Josephine and Jackson-Klamath Timber Management FEISs were made available to the Environmental Protection Agency and the public in October, 1978 and November, 1979, respectively (USDI, BLM 1978 and 1979). Implementation of the Josephine and Jackson-Klamath TMPs took place in October, 1979 and October, 1980, respectively.

Over the past few years, the ratio of current even-aged harvest practices changed compared to the ratio anticipated for the proposed actions in the Josephine and Jackson-Klamath FEISs. Although the ratio of clearcut and shelterwood harvests would be changed, both harvest practices are even-aged, and the regenerated stand would be of similar size and age regardless of whether clearcut or shelterwood was used. The harvest units would be identical in appearance to a clearcut of the same age in three to five years when the overstory trees are removed from the shelterwood units. Consequently, it appeared that there would be no significant changes in impacts. Nevertheless, it was decided to supplement the Josephine and Jackson-Klamath FEISs.

This supplement analyzes the environmental impacts of an increase in the amount of clearcutting acreage with an associated decrease in shelterwood harvest and of a shift in initial entry shelterwood harvest from 30 to 60 percent basal area (see Glossary, Appendix C) removed to leaving approximately 8 to 12 trees per acre. The impacts of these changes are compared with the environmental impacts identified for the proposed actions in the FEISs.

B. Statutory Authority

The BLM's principal authority and direction to manage the resources of the public lands within the Medford District are set forth in the guiding principles of two pieces of national legislation--The Revested Oregon and California (O&C) Railroad and Reconveyed Coos Bay Wagon Road Grant Lands Act of 1937 (O&C Act) and The Federal Land Policy and Management Act of 1976 (FLPMA).

The O&C Act of 1937 (50 Stat. 874; 43 U.S.C. 1181a., et seq.) establishes the principal authority and direction to manage the O&C grant lands and was the first legislation to specify sustained yield management for federal lands.

The O&C Act states that lands classified as timber lands "shall be managed for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principle of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities."

Intermingled public domain lands were brought under sustained yield management by BLM's 1969 application which withdrew those lands from entry under all public land laws except certain disposal acts. Withdrawal was completed by Public Land Order 5490 (40 CFR 7450, 1975).

The Federal Land Policy and Management Act of 1976 (90 Stat. 2743, 43 U.S.C. 1701, et seq.), often referred to as the BLM's "Organic Act," establishes the policy for administration of public lands under BLM's jurisdiction. Four provisions of FLPMA have significant application providing for: broad management authority under the principle of multiple use and sustained yield; periodic and systematic inventory of the public lands and the resources they contain; comprehensive land use planning; and protection of scientific, scenic, historical, ecological, environmental, air and atmosphere, water resources, and archeological values.

The BLM's Organic Act states that "notwithstanding any provision of FLPMA, in the event of conflict with or inconsistency between FLPMA and the O&C Act insofar as they relate to management of timber resources and disposition of revenues from lands and resources, the O&C Act shall prevail."

There are other laws, regulations, and executive orders with which the BLM must comply; however, the O&C Act and FLPMA are the two primary laws that set forth general policy and guidance.

C. Summary of the Existing Timber Management Plans

The ten-year TMPs for the public lands in the Josephine and Jackson-Klamath SYUs were developed, based on inventory systems and land use allocation processes consistent with applicable laws and BLM policies and procedures. The BLM has adopted the guidelines for timber management contained in the Senate Subcommittee on Public Lands report of 1972 entitled "Clearcutting on Federal Timberlands" (see pages 1-3 of FEISs). This report is commonly referred to as the "Church Guidelines" (USGPO 1972).

A harvest level was computed for the Josephine, Jackson, and Klamath sustained yield units within the Medford District. The Jackson and Klamath were consolidated for land use planning analysis and decisionmaking purposes.

The TMPs provide for a combined annual timber harvesting level of 38.73 million cubic feet (213 million board feet [MMBF]) from the high intensity management (HIM) lands and 2.66 million cubic feet (14 MMBF) from the trial harvest program lands. Even-aged timber management, using a combination of clearcutting (9,000 acres) and shelterwood (110,000 acres) harvesting systems combined with intensive forest management practices, was the primary variable of the allowable cut simulation model (see Table One, Appendix B). An estimate of the intensive management acreages for the TMPs is shown in Tables 1-1 of both FEISs.

The allowable cut plan assumes that, following harvest, the intensive management techniques necessary to facilitate reforestation and promote growth of commercial tree species would be accomplished. However, not every treatment listed in Tables 1-1 would be applied to every acre, although a large number of treatment combinations are possible and could be employed. Tables 1-1 display an estimate of treatment types and quantifies a level of magnitude for analysis.

Intensive forest management practices are accomplished through service contracts usually awarded on a competitive basis. The standard and special provisions in the contracts set forth the performance standards to be followed by the contractor in carrying out the action in accordance with applicable laws, regulations, and policies. The selection of special provisions is governed by the scope of the action and site characteristics.

1. Josephine Sustained Yield Unit (JSYU)

The record of decision (ROD) for the JSYU Timber Management Plan was approved by the BLM's Oregon State Director on September 4, 1979, and became effective October 1, 1979 (fiscal year 1980). This decision selected Alternative No. Four "Utilization of Surplus Inventory-One Decade." This directed the sale of the maximum amount of timber annually during the first decade, without diminishing the sustained yield harvest in future decades. The allowable cut on the high intensity lands for this alternative was 19.41 MM cu. ft. (99 MMBF) per year for one decade at which time the harvest level would be reduced to the sustainable harvest level of 18.34 MM cu. ft. (94 MMBF). The decadal allowable cut was 990 MMBF. This harvest level was calculated using the clearcut option of the computerized forest simulation model (SIMIX) because the net effects on establishment, yields, and volumes per acre are very similar to those for shelterwood harvest. The additional harvest of 1.76 MM cu. ft. (9 MMBF) was added for the trial harvest program. This decision remained in effect for two years (FY80-81).

On December 11, 1981, the BLM's Oregon State Director approved Amendment No. 1 to the Record of Decision (ROD) which revised the 1979 decision. This decision selected the proposed action (Chapter I of JFEIS) and reflected an increase from 94 MMBF to 95 MMBF in the annual productive capacity for HIM lands of the JFEIS, and also eliminated the harvest of surplus inventory volume. This amendment, resulting from a mathematical refinement in the method used to compute the allowable harvest level, established a new decadal harvest level of 950 MMBF.

The current (FY80 - FY89) annual allowable cut is 18.50 MM cu. ft. (95 MMBF), which is the sustainable annual harvest level for the high intensity lands, and 1.8 MM cu. ft. (9 MMBF) on the trial harvest program lands. The combined harvest level of 104 MMBF is a 4 MMBF annual reduction from the harvest level of 108 MMBF identified in the ROD. The TMP includes a cutting combination of 5,000 acres clearcut and 50,000 acres shelterwood (see Table One, Appendix B).

2. Jackson-Klamath Sustained Yield Units (J-KSYUs)

The ROD for the J-KSYUs Timber Management Plan was approved by BLM's Oregon State Director on May 13, 1980, and became effective October 1, 1980 (fiscal year 1981). This decision selected Alternative No. 3b. "Utilization of Surplus Inventory-Two Decades." This decision directed the sale of the maximum amount of timber annually during the first two decades without diminishing the sustained yield harvest in future decades. The allowable cut on the high intensity lands for this decision was 22.33 MM cu. ft. (131 MMBF) per year for two decades at which time the harvest level would be reduced to the sustainable harvest level of 19.69 MM cu. ft. (115 MMBF) for the remaining decades. The decadal allowable cut was 1,310 MMBF. This harvest level was calculated using the clearcut model option of the computerized forest simulation model (SIMIX) because the net effects on establishment, yields, and volumes per acre are very similar to those for shelterwood harvest. An additional annual harvest of .86 MM cu. ft. (5 MMBF) was added from the trial harvest program. This decision remained in effect for one year (FY81).

On December 11, 1981, the BLM's Oregon State Director approved Amendment No. 1 to the ROD which revised the 1979 decision. This decision selected the proposed action (Chapter I of J-KFEIS) and reflected an increase from 115 MMBF to 118 MMBF in the annual productive capacity for HIM lands of the J-KFEIS, and also eliminated the harvest of surplus inventory volume. This amendment resulted from the same mathematical refinement in computational methods as stated for the Josephine SYU, and established a new decadal harvest level of 1,180 MMBF.

The current (FY81 - FY90) annual allowable cut is 20.23 MM cu. ft. (118 MMBF), which is the sustainable annual harvest level on the high intensity lands, and 0.86 MM cu. ft. (5 MMBF) on the trial harvest program lands. The combined harvest level of 123 MMBF is a 13 MMBF annual reduction from the harvest level of 136 MMBF identified in the ROD. The TMP includes a cutting combination of 4,000 acres clearcut and 60,000 acres shelterwood (see Table One, Appendix B).

D. Description of the Proposed Action and Comparison to the Final EISs and Amended Records of Decision

The proposed action involves two shifts. First, there is a shift of acreage distribution between clearcut and shelterwood harvest systems. This would have a combined ten-year net effect of increasing the clearcutting to 55,300 acres and decreasing the amount of shelterwood to 51,000 acres (see Table One, Appendix B). Initial entry clearcutting would increase from 9,000 to 13,500 acres and de facto (see Glossary, Appendix C) clearcutting would total 41,800 acres. Second, the change in harvest practice ratios would entail a shift in initial entry shelterwood harvest from 30 to 60 percent basal area removed to leaving approximately 8 to 12 trees per acre. For the District, the adjustment in clearcut and shelterwood harvest practice ratios would yield a harvest ratio of 52 and 48 percent respectively. Further analysis indicates that for the JSYU, clearcut harvest would account for 73 percent and shelterwood for 27 percent. For the J-KSYUs, clearcut harvest would account for 36 percent and shelterwood for 64 percent. About 76 percent (74 percent of JSYU and 78 percent of J-KSYUs) of the increased clearcutting would be done in shelterwood areas created between the 1950s and 1970s. The remaining 24 percent (26 percent of JSYU and 22 percent of J-KSYUs) would be initial entry clearcuts.

The refinements of the District's management plans would not change the annual or decadal allowable harvest, and the silvicultural concept of even-aged timber management as described in the final EISs would be retained. Since the clearcut option of the simulation model was used in the original allowable cut computation, the shift from shelterwood to clearcut would not result in any changes in the allowable harvest level. This even-aged timber management concept uses a combination of clearcutting and two-stage shelterwood systems for most high intensity timber management lands (lands that are capable of being reforested within five years of harvest) within each SYU. The cutting method prescribed is based upon site specific factors and management constraints. Each sale area is reviewed by an interdisciplinary resource team comprised of specialists in forestry, soils, wildlife, fisheries, cultural resources, and other affected disciplines who consider multiple resource values, constraints, and mitigating measures. The development of the silvicultural prescription identifying the preferred harvest method considers site, biological, and management variables. A site specific environmental assessment is made to analyze the impacts of each proposed timber sale. When a timber sale decision is made, the timber sale contract incorporates specifications (see BLM Manual 5420 and Appendix E of FEISs) designed to protect resource values and achieve the desired management objectives.

For purposes of determining the sustained yield allowable cut, the low intensity management (LIM) and limited management (LM) lands are excluded from the timber production base, but comprise the land base for the trial harvest program. Under the J and J-K records of decision, harvesting is prescribed on these lands as determined by research study plans. Reforestation practices on these lands are being studied not only by BLM foresters, but by scientists from both the Pacific Northwest Forest and Range Experiment Station and Oregon State University under the Forestry Intensified Research (FIR) program. This program was planned for a ten-year period and is scheduled to terminate at the end of fiscal year 1988. The primary objectives of the FIR program are to determine and apply optimal reforestation techniques that can improve the reforestation of both withdrawn (LM and LIM) and high intensity management lands in southwest Oregon.

Impacts addressed in the FEISs assumed that 9,900 acres (5,000 for JSYU and 4,900 for J-KSYUs) of LIM lands would be shelterwood harvested. Table Four, Appendix B, shows that about 3,137 acres (1,991 for JSYU and 1,146 for J-KSYUs) have been offered for sale to date. Based on current research plans, no additional timber sales involving trial harvest lands are expected after FY86 for the remainder of the decade. Of the 3,137 acres sold, about 146 acres are located on LM lands (135 for JSYU and 11 for J-KSYUs), with the remainder on LIM lands. Of the total on LM lands, about 121 acres (110 for JSYU and 11 for J-KSYUs) would be clearcut with the remainder (25 for JSYU) shelterwood harvested. These acreages are included in Table Seventeen of Appendix B.

Impacts from road construction addressed in the FEISs were based on estimates of 875 miles (500 JSYU, 375 J-KSYUs) of new construction. Based on the projections related to the changes in harvest practices, BLM expects to enter 12,700 fewer acres. Road construction estimates for the decade are now projected to decrease by 19 percent, to 710 miles (360 JSYU, 350 J-KSYUs).

1. Clearcut/Shelterwood

a) Clearcut

Clearcutting on high intensity lands would occur where regeneration of the stand can be expected within five years of harvest using artificial reforestation. District reforestation records, research data, and intensive silvicultural practice indicate that reforestation to meet stocking standards can be effectively achieved on most sites through clearcutting. Stein (1981, 1984), sampled representative BLM acreages that were clearcut or partial cut between 1956-1971.

Stein reported results in two parts: (1) Southern Oregon Cascades (Butte Falls and Dead Indian areas of the Jackson-Klamath SYUs), and (2) BLM lands located in the Siskiyou Mountains (Galice-Glendale, Evans, and Applegate areas in the Josephine Sustained Yield Unit (SYU); and that portion of the Jackson-Klamath SYUs in the Siskiyous). Excluding the Dead Indian area, post-harvest seedling establishment was significantly higher in clearcut than partial cut areas, averaging 71.1 and 57.7 percent respectively. In contrast, partial cutting in the frost-problem and gopher-infested Dead Indian area was significantly more successful than clearcuts. Post-harvest regeneration for partial cutting and clearcutting in that area averaged 50.0 and 32.8 percent respectively. The Stein data was not available when the FEISs were being prepared in the late 1970s. Nevertheless, the acceptable stocking levels Stein reported reflect technologies of the late 1950s and 1960s. To illustrate the significance of this data, about 50 percent (a minimum of 125 well-spaced trees per acre) is the dividing line, according to Stein, between acceptable and unacceptable stocking. In shelterwood units, acceptable post-harvest stocking of new regeneration after partial removal of trees was 64 percent of the acreage cut in the Siskiyou part of the District, 86 percent in the Butte Falls, and 59 percent in the Dead Indian area. The acreage with acceptable stocking was markedly greater after clearcut harvest, averaging 83 percent in the Siskiyous and 100 percent in Butte Falls. District reforestation records through 1984 indicate that 84 percent of all cut-over lands meet or exceed minimal stocking standards (see Table Sixteen, Appendix B). Post-harvest regeneration at minimal or target stocking levels has been attained on 87 percent of all clearcut acres and 82 percent of all partial cut acres (Table Three, Appendix B).

Significant improvements in intensive silvicultural practices have been made on the District since the Stein study. The most important factors in attaining reforestation success are effective initial site preparation, timely and proper planting, quality seedlings, and early control of competing vegetation. At the beginning of this decade, the District hired a reforestation specialist to oversee all reforestation specifications, which include quality control, and handling and placement of seedlings. All harvested lands are planned for artificial reforestation within one year of site preparation. Additionally, the District has hired fuel management specialists responsible for site preparation which includes prescribed fire. Today, there is almost 100 percent contract administration of reforestation activities. Since 1978, a major effort in research and technology transfer in reforestation has been ongoing under the auspices of the Forestry Intensified Research Program. Technologies in production of nursery stock, site preparation, vegetation management, reforestation systems, forest ecology, young stand management, and genetics have been developed or refined by researchers from both the Pacific Northwest Forest and Range Experiment Station and Oregon State University (Walstad 1984). The refinements in silvicultural practice on the District; integration of and access to local, state-of-the-art forestry information, and protection and maintenance of seedlings have improved the District's ability to achieve reforestation success through clearcutting on lands previously scheduled for shelterwood harvest. For example, out of 5,558 acres planted in 1979, 92 percent (5,109 acres) are stocked (Table Three, Appendix B).

Clearcut acreage projections encompass two categories: initial clearcuts made in forests where no previous timber harvest occurred (except possibly mortality salvage) and "de facto" clearcuts where the overstory is removed from shelterwood areas harvested between the 1950s and 1970s, prior to the development of the FEISs and TMPs. These shelterwood areas consist of units that were managed under a three-stage shelterwood system with the expectation of successful natural regeneration. These units did not receive immediate follow up with intensive forest management practices to ensure reforestation success as is done today. Consequently, under the three-stage shelterwood system, three major situations developed. First, adequate natural regeneration occurred in areas where overstory removal can be successfully accomplished without doing unacceptable damage to the new plantation. In these instances, overstory removal was and is being done to release the understory for faster growth. In the second situation, regeneration of the site did not meet the District's stocking objectives due to the rapid development of a heavy component of brush and herbaceous vegetation under the canopy of the partial cut stand. Successful regeneration of these areas require overstory removal with the intent to make the site ready for prompt artificial reforestation. In the third situation, regeneration was adequate, yielding a stocked understory; however, due to many factors (e.g., steep slopes, excessive volume per acre, trees per acre, or timber size), overstory removal is not possible without incurring unacceptable damage to the existing regeneration. This is a situation where artificial reforestation activities are required. An important point is that the final removal of the remaining trees in the latter two shelterwood situations described are referred to as clearcuts because the intent is to reforest the unit. Had BLM initially been able to establish or predict the saving of adequate regeneration through the shelterwood system, the final harvest would have been to release the regeneration, and would then have been called an overstory removal (as described in the first situation) rather than a clearcut. In many prescriptions calling for clearcutting under the third situation described above, the understory reproduction may be saved to some extent. In those cases, interplanting may be required to achieve acceptable reforestation.

Clearcutting is an established forest management harvest practice that is successful in forested regions throughout the world, including the Medford District. Following are examples, which are not intended to be all-inclusive, where clearcut harvest is silviculturally favorable:

(1) Areas where an overstory canopy is not needed to modify the microsite (see glossary) modification.

(2) Stands that have a high potential for windthrow, resulting in toppling of shelterwood leave trees.

(3) Stands that have a serious problem with mistletoe, root rot, or other disease that would infect newly established seedlings.

(4) Certain topographies where shelterwood trees could not be removed by conventional logging systems or where yarding of felled trees on steep slopes would cause excessive damage to seedlings (regeneration).

(5) For species, i.e. Douglas-fir, that are not shade-tolerant.

b) Shelterwood

The two-stage shelterwood system is used in conjunction with artificial reforestation on those sites capable of being reforested in five years following the first (regeneration) cut. The first cut removes the majority of trees and is followed by the necessary site preparation and artificial reforestation. The objective of leaving a residual level of overstory trees is to provide shade at the ground level, thereby reducing evapotranspiration and thus facilitating seedling survival. When adequate stocking is established, which usually occurs three to five years after reforestation, the remaining overstory trees are removed. Some interplanting may be necessary in areas where an adequate number of seedlings do not survive for various reasons or where groups of seedlings are destroyed by the final logging operation. The resulting stocked plantation is visually similar to a stocked clearcut of the same age.

Following are examples, which are not intended to be all-inclusive, where shelterwood harvest is considered favorable:

(1) Hot, droughty areas with skeletal, shallow soils, where soil heating may reduce seedling survival significantly, and where artificial reforestation techniques alone are not effective in modifying site conditions sufficiently to favor seedling establishment. Soils associated with these conditions have been identified in the District's timber production capability classification (TPCC) manual.

(2) Areas, primarily in the Dead Indian area of the Southern Cascades, where frost may reduce seedling survival due to flat topography that restricts frigid air drainage.

(3) Areas identified through the District visual resource guidelines as having high scenic quality. In these areas, the goals of the visual resource guidelines may dictate a shelterwood which could vary the overstory volume, length of time for overstory removal, or type of logging employed.

2. Trees Left Per Acre Under Shelterwood System

As stated, the reason for leaving a residual level of trees on shelterwood sites is to modify the ground level seedling environment. However, for the shelterwood to be effective, the remaining overstory trees must not only modify the seedling environment, but must be capable of being removed without incurring unacceptable damage to the regeneration. While many factors (e.g., harvest system; slope; topography; and the trees' size, crown ratio, and distribution) affect the ability to successfully remove overstory trees, seedling mortality at unacceptable levels occurs when overstory volumes per acre (numbers of large trees) are excessive. For example, Lysne et al. (1981) quantified seedling mortality associated with skyline logging a steep (65 percent) slope on a 22-acre overstory removal in southwest Oregon. Volumes removed were relatively low, averaging 12.7 thousand board feet (MBF) per acre, with about 20 trees per acre averaging 23 inches dbh. Initial post-harvest stocking was 35 percent (451 trees per acre [TPA]) based on one milacre (see Glossary, Appendix C) plot. Of the 35 percent initial stocking, 59 percent (154 TPA) of the seedlings survived the combined impacts of felling and yarding the overstory trees. Because of the irregular distribution of the remaining seedlings, the area required major interplanting. A conclusion drawn from the study was that seedling mortality would be reduced by "leaving fewer overstory trees in areas where steep lateral slope yarding cannot be avoided." However, in a similar BLM operational study

(Holen 1982), a successful overstory removal operation was accomplished on a 60 percent slope using a partial suspension cable system. The unit contained 32 overstory TPA having an average dbh of 20 inches with 8.4 MBF per acre. Seedling mortality resulting from the logging operation was less than four percent, leaving 364 TPA. Logging success was attributed to excellent sale layout and contract administration, and the small size of the overstory trees removed. The Steamboat Ranger District of the Umpqua National Forest has extensive operational experience regarding the two-cut shelterwood system. The Ranger District found that in old growth situations, with good sale layout and contract administration, and reservation of the proper number and size of trees, logging damage to regeneration can be kept below 25 percent during overstory removal operations. The Ranger District recommends leaving between 8 to 12 trees per acre averaging about 15 MBF per acre and increasing planting density by 25 percent (Brush 1979). Because of the experiences of the Medford District and the Umpqua National Forest, as well as research data indicating a relationship between overstory volumes (number and size of trees) removed and logging damage to reproduction, the District has shifted initial entry shelterwood harvest from a 30 to 60 percent basal area removed to leaving approximately 8 to 12 trees per acre. The actual number of trees reserved would be determined on a site-specific unit basis.

E. Alternatives

This SEIS portrays and analyzes the potential impacts of an adjustment in timber harvest practice ratios. The adjustment is based on current research and state-of-the-art silvicultural practices. The even-aged harvest practices described in the proposed action of the SEIS are similar to the proposed actions selected in the Records of Decision for the Josephine and Jackson-Klamath Sustained Yield Units. No change in the allowable cut or land use allocations is proposed. The change in harvest practice ratios would thus not affect the basis for the previous rejection of the alternatives considered in the FEISs. Since the proposed action of the SEIS is not a substantial departure from the TMPs' decisions, it is necessary only to compare this proposed action to the proposed actions of the FEISs. The proposed actions and alternatives to the proposed actions from the Josephine and Jackson-Klamath FEISs are summarized and documented in Appendix D.

F. Implementation

1. Decision

Following the release of the final SEIS and completion of the review period, the District Manager will review the public comments on this SEIS and prepare a proposed decision. The decision will be made by BLM's Oregon State Director. Conflicts, environmental preferences and economic and technical considerations may be addressed in that decision, which is scheduled for public availability in the summer of 1985.

2. Monitoring and Studies

Monitoring and research are discussed in Section 1.7 of the Josephine FEIS (USDI, 1978, pp. 1-35) and in Section 1.4 of the Jackson-Klamath FEIS (USDI, 1979, pp. 1-38).

3. Requirements for Further Environmental Analysis

This document supplements the JSYU and J-KSYUs FEISs ten-year timber management plans in the Medford District. Interdisciplinary impact analysis would be tiered within the framework of these and other applicable environmental impact statements. Site specific environmental analysis and documentation concerning impacts, including cumulative effects, would continue to be considered for each timber sale under consideration.

II. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

The BLM planning system documents are the primary sources which describe the affected environment of the SEIS area. These planning documents include the Unit Resource Analyses, Planning Area Analyses, and Management Framework Plans, which are available for review in the BLM Medford District Office in Medford, Oregon. These documents were initially compiled during 1977-78. Information concerning resources in the District can be found in the Final Environmental Impact Statements for the Josephine and Jackson-Klamath Sustained Yield Units. Reading copies of these FEISs are available at BLM offices in Portland and Medford, Oregon; and Washington D.C. Copies were also sent to the following libraries: Portland State University, Portland; Oregon State University, Corvallis; University of Oregon, Eugene; Southern Oregon State College, Ashland; Oregon Institute of Technology, Klamath Falls; Rogue Community College, Grants Pass; and the Coos, Curry, Douglas, Jackson, Josephine, and Klamath County libraries.

The remainder of this chapter focuses on the environmental consequences, by resource, of the change in ratio of harvest practices compared to those identified for the proposed actions in the FEISs. No discussion is included for resources not affected.

Although cumulative impacts are not addressed in this SEIS, they are considered to have been adequately addressed in the FEISs. (Also see Chapter I, Section F.3.). Site-specific timber sale environmental analysis also considers cumulative effects.

A. Air Quality

Of the intensive forestry practices used for site preparation, burning has the most significant impact on air quality. The benefits of burning for slash disposal are: facilitating planting access, controlling rodent habitat, reducing competing vegetation, and reducing fire hazard. For the decade, it was anticipated that portions of 55,000 acres in the Josephine SYU, and 56,700 acres in the Jackson-Klamath SYUs would be burned for slash disposal. Table Four (Appendix B) shows the gross acres treated and projected for site preparation treatments. Of 39,500 acres having site preparation, 27 percent was planned for broadcast burning (37 percent for JSYU and 21 percent for J-KSYUs), 14 percent for tractor piling and burning (8 percent for JSYU and 18 percent for J-KSYUs), and 2.7 percent for hand piling and burning (1 percent for JSYU and 4 percent for J-KSYUs). The remaining 56 percent (54 percent for JSYU and 57 percent for J-KSYUs) had no burning planned. For timber sales in the remainder of the decade, the BLM estimates that burning would occur on a portion of about 36,700 acres (16,860 for JSYU and 19,850 for J-KSYUs). Broadcast burning would account for about 27,850 acres (76 percent) of what is burned (16,600 acres or 98 percent for JSYU and 11,250 acres or 57 percent for J-KSYUs), while tractor piling and burning would account for about 3,400 acres (9 percent) or less than one percent for JSYU and 3,400 acres or 17 percent for J-KSYUs. Hand piling and burning would be done on about 5,400 acres or 15 percent (about 300 acres or 2 percent for JSYU; and 5,100 acres or 26 percent for J-KSYUs). It is estimated that most of the machine piling in the J-KSYUs would occur in the Klamath SYU. (See Table Seven, Appendix B.)

Air quality is mostly affected by the particulate matter emitted into the atmosphere through burning of slash. It is estimated for the proposed actions in the FEISs that 33,700 net acres would be burned (10,000 for JSYU and 23,700 for J-KSYUs) consuming 31,500 and 75,000 tons of fuel per year respectively. The proposed action of the SEIS is expected to increase total acres burned by one percent (see Table Five, Appendix B). However, the increase is not equally shared by the SYUs. Acreage burned in the JSYU would increase 90.4 percent while in the J-KSYUs it would decrease 37.1 percent from estimates for the proposed actions in the FEISs. Actual acres burned per year through FY84, compared to that anticipated in the FEISs, are about as expected for the JSYU (98.7 percent), while significantly lower (51.3 percent) for the J-KSYUs. For the balance of the decade, the District expects yearly acreage burned to increase by 33.4 percent; incrementally, however, the JSYU estimate would increase by 182 percent while the J-KSYUs would have a decrease of 29.4 percent.

Tables Ten and Eleven (Appendix B) show the expected change in emissions for the remainder of the decade compared to the proposed actions in the FEISs. Comparison between the JFEIS and the SEIS proposed actions shows potential for estimated increases in emissions from all sources (from 1975 levels) ranging from 9.3 percent to 14.9 percent for particulates; 4.7 percent to 7.5 percent for carbon monoxide; and from .6 percent to 1 percent for oxides of nitrogen. Comparisons between the J-KFEIS and the SEIS proposed actions indicate estimated emissions from all sources would be reduced from a high of 55 percent to 35 percent for particulates; 56 percent to 35 percent for carbon monoxide; and from 4 percent to 2 percent for oxides of nitrogen.

The increase in acres estimated to be burned and the consequential increase in atmospheric emissions would be greater than the base projected for the proposed action in the JFEIS. However, while the acres to be burned per year for the remainder of the decade would increase 182 percent in the JSYU, atmospheric emissions would not increase proportionately. The contrasting difference between the acreage burned and emissions anticipated is because the average tons/acre of fuel consumed would be less than anticipated in the FEISs. The FEISs predicted that fuel consumption would be 31.6 tons per acre. Fuel consumption is now predicted to be 18 tons per acre for JSYU and 27.9 for J-KSYUs (Table Six, Appendix B). The reduction in tonnage consumed and resulting reduction in emissions is due to a variety of factors. Most important is that the majority of burning done has shifted to broadcast burning which consumes only 18 tons/acre (see Tables Seven, Eight, and Nine in Appendix B). Additionally, detailed fuel management prescriptions and burn plans are developed, inclusive of project design features, for each sale area. These features include gross yarding by specific fuel sizes; establishing prescriptions for limiting burn intensity; burning for a short duration; and generally burning when fuel moisture and relative humidity allow the consumption of only small fuel sizes. The trend toward reducing fuel consumption would continue for the remainder of the decade.

The Oregon State Department of Forestry (OSDF) through the Oregon Smoke Management Plan monitors total acres burned, tons of slash consumed, wind characteristics, atmospheric stability and distance of burn from smoke sensitive areas. The Smoke Management Plan is designed to keep smoke from entering smoke sensitive areas. While the District determines how, where, and whether or not to burn a particular unit, the OSDF determines when suitable burn days occur, and maintains the authority for allowing burning on such days. Excluding Klamath County, which is outside the Oregon Smoke Management Plan, no BLM planned burning independent of Oregon's Smoke Management Plan is done on the District. However, burning in Klamath County would be similar in that all burning would be conducted during periods of dispersive air movement. The close coordination between the OSDF and the BLM further reduces the potential of air quality impacts of slash burning within the Rogue River Valley and/or nearby Federal Class 1 areas such as Crater Lake National Park. Studies performed by Oregon Department of Environmental Quality on Crater Lake demonstrate the effectiveness of the Smoke Management Plan. Less than four percent of the daylight hours were found to have visibility impairment due to man-made sources. Similarly, considering slash burning associated with timber harvest from all sources in Josephine and Jackson Counties, smoke intrusions from burn units into populated areas have averaged one-half of one percent for the last four years. This is significantly lower than the statewide average of nine tenths of one percent (Oregon State Department of Forestry 1981, 1982, 1983, and Ziolko 1985).

In conclusion, air quality impacts resulting from the changes described in the SEIS, for the J-KSYUs are well within the scope of those identified for the proposed action in the FEIS. The air impacts of the proposed action for the JSYU would be greater than identified for the proposed action in the JFEIS. The increased impacts in the JSYU would be mitigated as much as possible by continuing to incorporate design features given in the JFEIS (Section 1.6.3.2 Project Design Features and Section 3.1.2.2 Protection Practices). Under the management guidelines, burning would not be done on days when there is no atmospheric mixing or movement.

B. Soils

Road construction, yarding, and burning for site preparation are the management activities associated with timber harvest that could have a significant effect on erosion and soil productivity.

Road construction can create more than 90 percent of the erosion and sedimentation from a logging operation (Megahan 1972). The road system built for timber harvesting far overshadows logging or fire as a cause of increased erosion (Rice et al. 1972). The reduction in road construction (28 percent in the JSYU and 7 percent in the J-KSYUs), which in part is due to increased clearcutting, would result in a substantial reduction in erosion compared to that anticipated for the proposed actions in the FEISs.

During timber harvesting, the amount of exposed bare soil subjected to erosion and subsequent loss in soil productivity is primarily dependent upon the yarding system employed (Dyrness 1965, 1967, and 1972). The percent of bare soil created can range from 35.1 percent with a tractor to 6.0 percent with a balloon system

(Swanston and Dyrness 1973). The amount of time required for soil to become stabilized is dependent upon such variables as the climate of the area, which subsequently influences the rate of vegetative establishment. With partial cutting, the period of surface erosion risk is extended beyond that of clearcutting because the timber stand is entered twice rather than once (EPA 1976).

The estimated area to be harvested would be reduced from 55,000 to 46,000 acres (16 percent) in the JSYU, and from 64,000 to 60,300 (6 percent) in the J-KSYUs. This reduction in total area to be harvested, combined with a reduction in shelterwood cutting, would result in a reduction in the soil impacts caused by yarding as compared to the impacts identified for the proposed actions in the FEISs.

The soil impacts associated with burning for site preparation have been documented in several studies undertaken on typical Cascade Mountain sites in the Pacific Northwest. DeByle (1976) found that clearcutting and subsequent burning of logging debris caused some measurable changes in soil chemistry and nutrient availability; however, the nutrient changes measured should not have any long-term adverse effects on site quality. Results of broadcast burning (Kraemer and Hermann 1979) failed to show statistically significant differences between properties of burned and unburned soils, suggesting that broadcast burning does not have a lasting effect on chemical and physical properties of soils. Tarrant (1956) found no differences in seedling growth on burned and unburned soils. Mersereau and Dyrness (1972) noted that most soils in the Pacific Northwest are, generally, strongly aggregated because of favorable climate and the preponderance of basic igneous parent material (rock). Surface erosion, even on steep slopes, is quickly controlled by invading annual vegetation. Post burn evaluations of several units in the District indicate less than ten percent of the acreage analyzed had been severely burned. These results have been achieved in an area that has site conditions conducive to intense burning. Intense burns can cause accelerated erosion leading to soil productivity losses. To protect against potential damage to the soils resource, the BLM has identified fragile soils where cool burns are recommended. (See the Medford District's programmatic EA on burning, OR110-9-62.) In addition, burn plans are written for each unit which identify such variables as soil type, fuel loading, slope steepness, and ignition requirements necessary to protect the soil from intense burns.

Burning for site preparation would be increased by 90.4 percent from 10,000 to 19,039 acres in the JSYU and decreased by 37.1 percent from 23,700 to 14,917 acres in the J-KSYUs. Overall, there would be a one percent increase in burning on the District. In the FEISs, an estimated 31.6 tons of fuel per acre were projected for consumption due to broadcast burning. However, field measurements since publication of the FEISs have shown that actual fuel consumption averaged 18 tons/acre in the JSYU and 27.9 tons/acre in the J-KSYUs. This reduction in fuel consumption reduces the intensity of prescribed burns and the possibility of adverse effects on the soil resource. The reduction in burn intensity, therefore, would result in a reduction in the soil impacts caused by burning as compared to the impacts identified for the proposed actions in the FEISs.

In conclusion, the reduced level of road construction along with an increase in clearcutting and an associated reduction in shelterwood would result in a reduction in erosion from that analyzed for the proposed actions in the FEISs. Soil erosion and productivity losses caused by an increase in acres to be burned in the JSYU would be offset by a reduction in burn intensity resulting from less fuel consumed per acre. The overall soil impacts of the proposed action would be less than those identified for the proposed actions in the FEISs.

C. Water Resources

1. Water Quantity

Forest management activities such as road building and timber harvest can affect annual water yields and seasonal streamflow characteristics (peak and low flows). Watershed research studies in western Oregon have evaluated the effects of timber harvesting activities on streamflow. (See Harr 1979 for a summary of these studies.) The watershed study areas were small headwater drainages (124 to 749 acres) in the Cascades and Coast Range which received different treatments including shelterwood harvests (removal of 50 to 60 percent of the basal area), patch clearcuts covering 25 to 30 percent of the watershed, and extensive clearcuts covering 100 percent of the watershed. There were also differences in the amount of road building and method of harvest (tractor or cable) for each study area analyzed.

Increases in annual streamflow result from the removal of forest vegetation which reduces interception and transpiration allowing more water to enter the soil and move downslope to stream channels. As the site revegetates, such increases in annual streamflow decrease as both interception and transpiration increase. The watershed studies showed that watersheds with the most extensive clearcutting resulted in the highest average annual percentage increases. The range in such increases was as follows: shelterwood harvests ranged from 8 to 22 percent (Harr 1979 and Harr et al. 1982), patch clearcut harvests ranged from 5 to 24 percent (Harr 1976a), and extensive clearcut harvests ranged from 30 to 43 percent (Harr et al. 1982 and Harr 1979).

The values used for average increases of annual water yield per acre harvested in the FEISs were 25 percent for shelterwood (30 to 60 percent of basal area removed) and 40 percent for clearcuts. The clearcuts defined in the FEISs are comparable to the patch clearcuts analyzed in the watershed studies rather than extensive clearcuts which harvest an entire watershed. The percentage figures of 25 and 40 percent are on the high end of the range for annual streamflow increases determined in the western Oregon watershed studies. Smaller increases in post-harvest annual yields would be expected in southwestern Oregon, where less water is available for plant growth and vegetation is less dense than in the Coastal and Cascade ranges. Consequently, actual experiences should result in a much smaller increase in annual streamflows than were calculated for analytical purposes in the FEISs. Thus, actual experience should result in a much smaller increase in annual streamflows than were calculated for analytical purposes in the FEISs.

For comparison purposes, the same figures were used to calculate average annual water yields for the clearcuts and roads under the change in ratio of harvest practices as those used in the FEISs. The figure used to calculate average annual water yields for shelterwoods under the change in ratio of harvest practices was adjusted to account for the increase in number of trees to be removed per acre. The percent increase per acre for annual streamflows under this shelterwood harvest was estimated by linear interpolation between the 25 percent increase for the shelterwood system described in the FEISs and the 40 percent increase for clearcuts to arrive at a figure of 33 percent average increase in annual water yield per acre. Once again, this value is probably on the high side, and actual increases in annual water yield would be less. See Tables Twelve and Thirteen (Appendix B) for a comparison of the estimated streamflows between the FEISs and this SEIS.

The increases in water yield resulting from the change in ratio of harvest practices in the JSYU and J-KSYUs would be slightly greater than those estimated for the proposed actions in the FEISs over the ten-year period. The clearcut and shelterwood treatment outlined in the JFEIS would result in an estimated 1.0 percent increase in water yield for the JSYU over the ten-year period. The change in ratio of harvest practices identified in this FSEIS would result in an estimated 1.2 percent increase in water yield for the JSYU over the ten-year period. In the J-KSYUs, the clearcut and shelterwood treatment outlined in the J-KFEIS would result in an estimated 0.4 percent increase in water yield over the ten-year period. The change in ratio of harvest practices identified in the FSEIS would result in an estimated 0.5 percent increase in water yield for the J-KSYUs over the ten-year period. Over a ten-year period, these increases in water yield for the JSYU and J-KSYUs (0.2 and 0.1 respectively) would be extremely small and undetectable when combined with flows from unlogged areas and areas which have recovered hydrologically from harvesting.

The increases in water yield that have been discussed up to this point are increases in average annual water yields. This represents the total increase in streamflow over a one-year period and does not reflect seasonal increases.

Seasonal streamflow (peak flow and low flow) is often of more concern than annual flow. In western Oregon the relationship is not consistent between increases in annual water yield and increases in peak flow after timber harvesting activities (Harr 1976a). Increases in average peak flows have been observed after removal of forest vegetation with the greatest increases being noted for fall peak flows. Timber removal has little effect on the size of major peak flows which are the primary contributors to channel erosion and increased sedimentation (Rothacher 1973). These major peak flows are wet-mantle floods caused by such great amounts of precipitation that differences in soil moisture content and interception between cut and uncut areas become insignificant. Thus, cut and uncut areas should have nearly the same hydrologic response during major peak flows (Harr 1976a).

A watershed study which evaluated changes in average peak flows resulting from shelterwood harvest, patch clearcutting, and clearcutting showed the greatest increase in average peak flows resulting from the shelterwood harvest (Harr et al. 1979). The shelterwood unit was logged with tractors, and a large portion of the watershed was severely compacted. Increases in size of peak flow appear to be related to the amount of watershed area where soils were compacted. The relationship between peak flow and soil compaction is complex with many factors involved. All areas of compacted soil do not contribute toward increased runoff to the same degree. Factors such as proximity of compacted areas to streams, continuity of compacted areas such that overland flow can reach streams, interception of subsurface water by road cuts and ditches, and soil and physiographic characteristics are involved in the affects of soil compaction on peak flows (Harr 1979). In conclusion, the yarding method employed has more affect on average peak flows than the harvest practice (clearcut or shelterwood).

Removal of forest vegetation has resulted in large relative increases in minimum flows during the summer (Harr 1976b). The summer low flow increase has been most notable in watersheds that were clearcut 100 percent. No significant changes were detected on watersheds which contained shelterwoods or patch clearcuts (Harr 1976a). Increases in minimum flows are relatively short-lived as regrowth of vegetation occurs.

In summary, the water yield estimates resulting from the change in ratio of harvest practices in the JSYU and J-KSYUs would be slightly greater (0.2 and 0.1 percent respectively) than those estimated for the proposed actions in the FEISs over the ten-year period. These increases in water yields for the JSYU and J-KSYUs would be extremely small and undetectable when combined with flows from unlogged areas and areas which have recovered hydrologically from harvesting. The change in ratio of harvest practices would not be expected to have any effect on peak flows or low flows in either the JSYU or J-KSYUs.

2. Water Quality

The water quality components most likely to be affected by forest management are suspended sediment and stream temperature.

The forest management activities which have the greatest impact on sedimentation in streams are road construction and yarding. Research has demonstrated that road construction is without a doubt the main cause of water quality degradation in forested areas (Packer 1966). The estimated reduced level of road construction would result in an estimated 28 percent reduction of the sediment yield predicted for the proposed action in the JFEIS. The estimated reduced level of road construction would reduce the sediment yield predicted for the proposed action in the J-KFEIS by an estimated seven percent (Tables Fourteen and Fifteen, Appendix B).

Felling trees usually does not produce an increase in suspended sediment concentration. A study conducted on the Oregon coast showed that clearcutting alone did not result in significant increases in stream sedimentation at any time (Fredriksen 1971). It is the yarding of logs to the landing which can cause soil disturbance and consequent erosion. The FEISs provide estimates for increases in sediment yield based upon the amount of soil disturbance that would occur as a result of the yarding method employed. The change in ratio of harvest practices would not affect the type of yarding system used. The ratio of yarding systems employed for a timber harvest is dependent upon multiple resource considerations (e.g., soils, hydrology, silviculture) rather than whether a clearcut or shelterwood treatment is prescribed. Therefore, assuming the same ratio of yarding systems, the decrease in acres to be harvested would correspond to a similar decrease in the area disturbed by yarding equipment and hence a reduction in the sediment yield. The 16 percent decrease in acres harvested in the JSYU under the change in ratio of harvest practices would result in an estimated 16 percent reduction in the sediment yield predicted for the proposed action in the JFEIS. Likewise, in the J-KSYUs the six percent decrease in acres harvested under the change in ratio of harvest practices would result in an estimated six percent reduction in the sediment yield predicted for the proposed action in the J-KFEIS.

The removal of stream-side vegetation during logging operations exposes the surface waters to increased sunlight which can lead to higher water temperatures. Maintenance of stream-side vegetation is accomplished through no-cut conifer bufferstrips adjacent to fish-bearing streams and reservation of all non-merchantable vegetation whenever practical along non-fishery streams. Stream-side vegetation is given additional protection by requiring the full suspension of logs yarded across stream channels and by felling timber away from all stream channels. These stream-side protection measures would continue to apply equally to clearcut and shelterwood treatments, and therefore the impacts to stream temperatures are expected to be the same under the change in ratio of harvest practices as for the proposed actions in the FEISs.

In summary, the reduced levels of road construction and acres harvested would result in a decrease of total sediment yield as compared to the estimated sediment yield for the proposed actions in the FEISs. Also, no change in impacts to maximum summer stream temperatures would be expected to result from the change in ratio of harvest practices.

D. Vegetation

Regardless of the harvest practices and site preparation strategy used, the primary impact of timber harvest and reforestation activities on forest vegetation is the change in structure of the vegetative community. Depending on the degree of disturbance, changes in the frequency of occurrence of individual community members take place. Even-aged intensive forestry practices, such as clearcut and shelterwood harvest, favor the development of early successional herbaceous and shrub communities. The change in the ratio of harvest practices would cause little change in vegetation structure or composition from that expected for the proposed actions in the FEISs. Whether or not a regeneration cut (as described in the FEISs and glossary) or a clearcut is employed, the harvest would be followed by site preparation and artificial regeneration. Additionally, the remaining overstory trees of a shelterwood would be removed three to five years after planting. Intensive forestry practices employed subsequent to the overstory removal would be similar to those given clearcut units of the same age. District activities to control competing vegetation on harvested lands would be reduced as less total acres (11 percent) would be harvested. Mitigation measures described in the FEISs and adopted in the RODs would adequately protect species listed, or under review for listing as threatened or endangered. In summary, the change in ratio of harvest practices would result in vegetation impacts which are less than those estimated for the proposed actions in the FEISs.

E. Animals

Edgerton (1972) reported that deer and elk use in areas that have had shelterwood harvest is lower than use in either clearcuts or unharvested areas. This seems to be due to the loss of required cover and failure to provide a greatly increased food supply.

Food supplies for grazers and browsers are more readily available in the early successional stages as compared with other successional stages. Deer and elk use would increase and peak six to eight years following clearcutting (Harper 1969; Crouch 1974). This would benefit deer and elk over both the short and long term.

Reduction in the number of leave trees per acre would have a minimal impact on non-game wildlife. Under the two-stage shelterwood system, canopy closures would be less than the 80 percent required to provide the qualities inherent in optimum old growth habitat or thermal cover. After the regeneration cut (first entry of two-stage shelterwood), there would be a reduction of up to 50 percent in forage and nesting habitat for those species (e.g., hermit warbler, red crossbill, and brown creeper) which utilize the forest canopy. Three to five years later, the overstory (second entry of two-stage shelterwood) would be removed, and the habitat for these species would be gone.

Under the two-stage shelterwood system, species (e.g., western tanager and olive-sided flycatcher) which utilize open shelterwood forest would be displaced within three to five years after the regeneration cut when overstory removal occurs. Under the proposed action of this SEIS, this displacement would occur immediately when clearcut. The majority of these shelterwood areas would receive an overstory removal during the decade. Consequently, the impact on these species would be essentially the same under either ratio of harvest practices.

Non-game wildlife would be affected less under the proposed action since 12,700 fewer acres would be harvested on the District for the decade.

Measures to mitigate or minimize potential adverse impacts to cavity-dependent wildlife species are part of the MFPs and would continue under the change in harvest ratios. These measures call for the management of habitat to maintain viable populations of primary cavity nesters (e.g., pileated woodpecker, common flicker, hairy woodpecker, and downy woodpecker) as well as those species (e.g., amphibians and small mammals) utilizing dead and down material.

The estimated reduction of 165 miles of road construction would restrict human contact and disturbance of wildlife which would maintain greater habitat effectiveness (see Glossary, Appendix C) than the proposed actions in the FEISs. This would result in less long term impacts on all wildlife species when compared with the proposed actions in the FEISs, especially for the JSYU.

On the District, there would be a one percent total increase in burning, from 33,700 to 33,956 acres. This increase, however, is not equally shared by the SYUs on the District. The JSYU burn acreage would increase approximately 90 percent while the J-KSYUs burn acreage would decrease by approximately 37 percent during the decade. Burning increases the quality of forage by recycling nutrients to the soil, benefiting species (e.g., deer, elk, white-footed deermice, rufous-sided towhees, California ground squirrels, mountain quail, rabbits, and pocket gophers) using early seral stages of the conifer forest. Many of the smaller species are prey for hawks, owls, weasels, and other predators.

The change in the ratio of harvest practices would reduce the total number of acres impacted from harvest by 12,700 acres during the decade (9,000 acres in JSYU and 3,700 in J-KSYUs). These acres would be available as old growth and mature forest habitat through the current decadal cycle, benefiting wildlife species that find optimum habitat in old growth forests.

In conclusion, there would be no significant difference in impacts to non-game wildlife by increasing the acreage of clearcuts and reducing the acreage in shelterwood harvest systems. In three to five years after initial harvest, the future forest structure would be essentially the same under either harvesting ratio. With clearcutting there would be fewer entries and less total acreage cut to obtain the same volume, hence less new road construction and less human disturbance. The impacts on big game and old growth forest associated species would be less than those estimated for the proposed actions in the FEISs.

F. Fish

Management activities associated with timber harvest that can have a significant effect on the quality of habitat for resident and anadromous fish are timber felling and yarding (especially near streams) and road construction and maintenance. These activities can increase water temperatures beyond critical upper limits (Moring 1975), lower stream productivity and reduce potential for habitat recovery following logging (Koski et al. 1984, Chamberlin 1982, Swanson et al. 1976, and Bustard and Narver 1975), increase peak flows (Chamberlin 1982; Harr 1976a), increase minimum flow during summer (Harr 1976b), reduce dissolved oxygen levels (Ponce 1974), and cause accelerated deposition of sediment into streams from road and streambank erosion (Gibbons and Salo 1973, Cedarholm et al. 1981).

Measures to mitigate or minimize potential adverse impacts to fishery and non-fishery streams are part of the management framework plans (MFPs) and have been discussed in Chapter II, Section C. (Water Resources).

Based on analysis of impacts of the proposed action on soils and water resources (Chapter II, Sections B. and C.), it is concluded that adverse effects on aquatic habitat and fish production would be less than were estimated for the proposed actions in the FEISs. Situations that support this conclusion include fewer miles of roads as well as fewer landings and yarding routes that would be subject to soil erosion. In addition, streambanks and riparian vegetation on non-fishery streams would be disrupted once (clearcut) rather than twice (shelterwood).

G. Recreation

Impacts on recreational resources caused by changes in the ratio of timber harvest practices and the estimated reduction in road construction would be both beneficial and adverse.

The shift to increasing the acreage to be clearcut (28,800 acres in the JSYU and 17,500 acres in the J-KSYUs) would increase recreational opportunities for viewing wildlife, would improve hunting success, and would improve opportunities for collecting wild fruits and herbs in the forest openings created. By reducing the total harvest acreage by 12,700 acres (9,000 acres for JSYU and 3,700 acres for J-KSYU), there would be greater opportunities for undeveloped primitive recreational experiences in those areas. In addition, this reduction would also enhance the experiences of some sightseers as less landscape being viewed would be disturbed by timber harvest and road construction.

However, the proposed changes in ratio of harvest practices and the estimated reduction in road construction would provide less access to recreation resources for those preferring, or dependent upon, vehicular transportation.

In summary, based on the fact that less forest land (9,000 acres for JSYU and 3,700 acres for J-KSYU) would be subject to timber harvest, and 165 miles (140 miles JSYU and 25 miles for J-KSYU) less roads (see Table Two, Appendix B) would be built during this decade, it is concluded that recreational resources would be impacted less by the change in the ratio of harvest practices than estimated for the proposed actions in the FEISs.

H. Cultural Resources

Less surface disturbance related to the reduction in total harvest acreage (16 percent in JSYU, 6 percent in J-KSYU) would reduce the potential that unidentified cultural resource sites would be disturbed. The change in ratio of harvest practices and amount of road construction would result in less impact on cultural resources than estimated for the proposed actions in the FEISs.

I. Visual Resources

The proposed changes in ratio of timber harvest practices and the estimated reduction in road construction would result in both beneficial and adverse impacts to visual resources.

Because of the reduction in total harvest acreage (9,000 acres for JSYU and 3,700 acres for J-KSYUs) and road construction (140 miles for JSYU and 25 miles for J-KSYU) (see Table Two, Appendix B), less of the characteristic landscape would be visibly disturbed than was estimated for the proposed actions in the FEISs.

However, greater adverse impacts are expected to occur as a result of the proposed changes to increase clearcut and de facto clearcut harvest acreage from 9,000 acres to 55,300 acres, and to reduce shelterwood harvest from 110,000 to 51,000 acres. Clearcutting introduces an immediate change in the forest canopy having a high visual contrast in introduced timber harvest unit form and vegetative texture with adjacent forest cover. An initial entry shelterwood cut in comparison would leave a residual stand of old growth trees (8-12 trees/acre) for approximately three to five years before the final overstory removal. Although the overstory trees would be removed, the visual contrast of this harvest practice would provide a more gradual change or transition in forest canopy than a clearcut.

The shift in initial entry shelterwood harvest from removal of 30 to 60 percent basal area to leaving approximately 8 to 12 trees per acre would increase impacts on visual resources by creating higher visual contrast in vegetative texture which would be more evident to the casual observer than was estimated for the proposed actions in the FEISs.

Since there would be less acreage disturbed by timber harvest and road construction, and considering that the visual impacts of a clearcut and a two-stage shelterwood are comparable following final overstory removal (see FEISs, Chapter 3), it is concluded that there would be less impact on visual resources than was estimated for the proposed actions in the FEISs. However, a greater short-term impact would occur in those areas where clearcutting rather than shelterwood harvest would take place.

J. Special Management Areas

The change in harvest practices would not introduce any new or greater impacts to special areas (e.g., Research Natural Areas, Wild and Scenic Rivers, Wilderness Study Areas) than those estimated for the proposed actions in the FEISs.

III. CONSULTATION AND COORDINATION

A. Consultation and Coordination on DSEIS

The Medford District's draft SEIS was filed with the Environmental Protection Agency and released to the public October of 1984 and open to comment until December 21, 1984. Copies of the draft SEIS were also distributed to several federal agencies, state and local governments, libraries, special interest groups/organizations, and individuals (see Chapter III, Section C). Also, copies of the DSEIS were available for review at the Medford District BLM office, the Oregon State BLM office in Portland, and the BLM office in Washington, D.C.

A public hearing on the draft was held November 13, 1984, in Medford, Oregon. Forty-two people attended this meeting, twenty of which gave oral presentations. A draft transcript of the notes of this public meeting were distributed to the meeting's participants. Issues identified at this meeting are considered to be adequately addressed in this SEIS.

A total of 80 letters were received through December of 1984 in response to the draft SEIS. These letters were numbered in the order received and listed accordingly in Chapter III, Section D. (Letters). Additional consultation and coordination also occurred through telephone contact with several commenters, federal and state agencies, and local governments.

Comments that presented new data, questioned facts on the adequacy of the analysis, or raised questions or issues directly relative to the DSEIS were identified as issues, numbered and barred. These barred comments (issues) and BLM responses are listed in Chapter III, Sections D. (Letters) and E.1.-E.2. (Responses).

B. LIST OF PREPARERS

While individuals have primary responsibility for preparing sections of an EIS, the document is an interdisciplinary team effort. In addition, internal review of the document occurs throughout preparation. Specialists at both the District and State Office levels of the BLM review the analysis and supply information. Contributions by individual preparers may be subject to revision by other BLM specialists and by management during the internal review process.

Name	Primary Responsibility	Discipline	Related Professional Experience
Albert Abee	Air Quality, Vegetation, Silviculture, Description of Action	Silviculture/ Ecology	1 year, U.S. Forest Service (Forester) 2 years, ACTION (Ecologist) 1 year, Asia Development Bank (Ecologist) 1-1/2 years, Forest Service (Research Forester) 3 years, BIA (Range Conservationist) 4 years, BLM (Forest Silviculturist/ Ecologist)
Robert Bessey	Fisheries	Fishery Biology	4 years, Texas Instruments, Inc. (Fishery Biologist) 8 years, BLM (Fishery Biologist)
Dick Bonn	Wildlife, Threatened and Endangered Animal Species	Biologist	12 years, SCS (Biologist, Soil Conservationist) 6 years, BLM (Environmental Specialist, Wildlife Biologist)
Lewis Brush	Socio-economics	Logging Specialist/Economist	15 years, U.S. Forest Service (Logging Specialist, Forester) 7 years, BLM (Logging Specialist/Economist)
Kathy Helm	Editorial Assistance	Technical Writing	7 years, BLM (Writer/Editor)
Paul Kangas	Chief, Branch of Forestry	Forestry	22 years, BLM (Forester, Environmental Specialist)

Name	Primary Responsibility	Discipline	Related Professional Experience
Al Larson	Environmental Planning Coordinator	Planning and Environmental Coordination	29 years, BLM (Forester, Area Manager) 5 years, BLM (Planning Coordinator, Environmental Coordinator)
Laurie Lindell	Water Resources	Hydrology	4 years, BLM (Hydrologist)
Robert Marlow	Description of the Action	Inventory Specialist	14 years, BLM (Forester)
Ron Russell	Recreation, Cultural Resources, Visual Resources, Special Areas	Recreation/ Landscape Architecture	3 years, U.S. Forest Service (Landscape Architect) 18 years, BLM (Landscape Architect)
Joan Seevers	Threatened and Endangered Plant Species	Botany	6 years, BLM (Biological Technician, Botanist)
Steven Shade	Soils	Soil Science	3 years, U.S. Forest Service (Soil Scientist) 2 years, Jackson County, Oregon (Soil Scientist) 3-1/2 years, Soil Conservation Service (Soil Scientist) 9 years, BLM (Soil Scientist)
Dave Taylor	General	Natural Resources	24 years, BLM (Forester)
Roger VanBuskirk	Air Quality	Fuels Management Specialist	14 years, (General Fire) 8 years, Fuels Management, U.S. Forest Service 6 years, BLM (Fuels Management Specialist)
Mike Walker	Team Leader	Planning and Environmental Coordination	2 years, Josephine County, Oregon (Planner) 9 years, BLM (Community Planner, Environmental Specialist, Writer/Editor)

C. Agencies, Organizations, and Persons to Whom Copies of the SEIS Are Sent

Review and comments on the draft SEIS were requested from the following agencies and interest groups.

Federal Agencies

- Department of Agriculture
    - Forest Service*
    - Soil Conservation Service
- Department of Commerce
    - National Marine Fisheries Service
- Department of Defense
    - U.S. Army Corps of Engineers
- Department of Energy
    - Region X
- Department of the Interior
    - Fish and Wildlife Service
    - Geological Survey
    - National Park Service
    - Bureau of Mines
    - Bureau of Reclamation
- Small Business Administration
- Environmental Protection Agency*

State and Local Government

Oregon State Clearinghouse*
The Oregon Project Review acknowledgment (OR 841031-041-4) indicated that the draft was sent to the following State departments:

- Soil and Water
- Governor's Office
- DEQ*
- Energy
- Fish and Wildlife*
- Forestry
- Geology
- LCDC
- Water Resources
- State Historical Preservation Officer*

- Oregon Regional Clearinghouses
    - Coos-Curry Council of Governments
    - Klamath-Lakes Planning Coordinating Council
    - Umpqua Regional Council of Governments
- Coos, Curry, Douglas, Jackson*, Josephine and Klamath County Planning Commissions

Interest Groups

- American Fisheries Society
- American Forest Institute
- Applegate Citizens Opposed to Toxic Sprays

Associated Oregon Industries
Association of O&C Counties*
Audobon Society*
Cascade Holistic Economic Consultants
Deer Creek Valley Natural Resources Conservation Association*
Federation to Protect the Williams Valley Watershed
Foots Creek Residents
Friends of the Earth
Headwaters*
Industrial Forestry Association*
Illinois Valley Soil and Water Conservation District*
Izaak Walton League
Josephine Environmental Matters
League of Women Voters
Native Plant Society
Native Plant Society of Oregon, Threatened and Endangered Comm.
Natural Resources Defense Council
Nature Conservancy
National Wildlife Federation
Northwest Environmental Defense Center
Northwest Steelheaders Club
Northwest Timber Association*
Oregon Environmental Council
Oregon Hunters Association
Oregon Natural Heritage Program
Oregon Natural Resources Council*
Oregon Student Public Interest Research Group
Oregon Women for Timber
Oregon Wilderness Coalition
Pacific Northwest Bell*
Rogue Flyfishers
Rogue River Guides Association
Rogue River Outfitters Association
Sierra Club*
Southern Oregon Citizens Against Toxic Sprays*
Southern Oregon Resource Alliance
Southern Oregon Timber Industries Association*
Thompson Creek Residents for Ecological Education*
Threatened and Endangered Little Applegate Valley*
Wilderness Society
Western Forest Industries Association*
Wildlife Management Institute
Wildlife Society, Oregon Chapter

Approximately 250 other individuals and organizations.

An asterisk (*) indicates those agencies and organizations that submitted written responses to the draft SEIS.

Copies of the final SEIS will be sent to each person, organization, or agency commenting on or receiving a copy of the draft document. Copies of this final SEIS will be available for public inspection at the following BLM offices:

Washington Office of Public Affairs
18th and C Streets
Washington, DC 20240
Phone (202) 343-5717

Oregon State Public Affairs Office
825 N.E. Multnomah
P.O. Box 2965
Portland, Oregon 97208
Phone (503) 231-6277

Medford District Office
3040 Biddle Road
Medford, Oregon 97504
Phone (503) 776-4174
FTS 424-4174

Also, copies of the final SEIS will be forwarded to, and be available for review, at the following area libraries:

Applegate Public Library, Applegate, Oregon
Ashland Public Library, Ashland, Oregon
Butte Falls Public Library, Butte Falls, Oregon
Central Point Public Library, Central Point, Oregon
Coos Public Library, Coos Bay, Oregon
Curry Public Library, Gold Beach, Oregon
Douglas County Library, Roseburg, Oregon
Eagle Point Public Library, Eagle Point, Oregon
Gold Hill Public Library, Gold Hill, Oregon
Illinois Valley Public Library, Cave Junction, Oregon
Jackson County Library Systems, Medford, Oregon
Jacksonville Public Library, Jacksonville, Oregon
Josephine County Public Library, Grants Pass, Oregon
Klamath County Public Library, Klamath Falls, Oregon
Oregon Institute of Technology Library, Klamath Falls, Oregon
Oregon State University Library, Corvallis, Oregon
Phoenix Public Library, Phoenix, Oregon
Portland State University Library, Portland, Oregon
Prospect Public Library, Prospect, Oregon
Rogue Community College Library, Grants Pass, Oregon
Rogue River Public Library, Rogue River, Oregon
Shady Cove Public Library, Shady Grove, Oregon
Southern Oregon State College Library, Ashland, Oregon
Talent Public Library, Talent, Oregon
University of Oregon Library, Eugene, Oregon
White City Public Library, White City, Oregon
Williams Public Library, Williams, Oregon
Wolf Creek Public Library, Wolf Creek, Oregon

D. Comment Letters Received on the Draft SEIS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

LOG OF OFFICIAL COMMENTS ON DRAFT OF BUREAU ENVIRONMENTAL IMPACT STATEMENT

INSTRUCTIONS

Responsible official logs in duplicate *all* comments received and files a copy with each of two (2) complete statement records under 1792.

EIS Title: Draft Josephine/Jackson Klamath Timber Management Supplemental EIS

Subject: Timber Management

Location: Medford, Oregon

Responsible SD, SCD, Office, Division Chief, or Task Force Chairman:

CODE FOR REVIEW COMMENTS

1. – Merits of the alternatives
2. – Adequacy of information
3. – Adequacy of the analysis
4. – Adequacy of documentation/format
5. – Adequacy of mitigation

O – Other

Combine numbers in column if appropriate.

Lead WO:

NO.	DATE RECEIVED	REVIEW COMMENTS	AGENCY, ORGANIZATION, OR INDIVIDUAL
1	11/20/84		No name; No return address
2	11/20/84		Robert P. Watson, Timber Manager Spalding & Son, Inc.
3	11/21/84		Richard, Phillip & Nancy Hunter
4	11/23/84		Cindy Rus
5	11/26/84		Kathy Murdock
6	11/27/84		Charles H. Inman
7	11/27/84		Mrs. Louise Allen
8	11/29/84		David F. Keiser, Woods Manager KOGAP Manufacturing Co.
9	11/28/84		Oregon State Clearinghouse
10	11/30/84		Mark Swisher
11	12/07/84		Jeff M. Sirmon Pacific Northwest Region, Portland Ore Regional Forester
12	12/07/84		Stephen Williams, Deja Vu Nursery, Williams Ore.
13	12/10/84		Tee Martin
14	12/10/84		Claudia Beauseleil
15	12/10/84		Bix H. Weir
16	12/11/84		Alan Venet
17	12/11/84		Mark Swisher
18	12/12/84		Dolores Streeter, Clearinghouse, State of Oregon
19	12/17/84		Christopher Bratt for Headwaters
20	12/18/84		Michele Grady
21	12/18/84		Lewis Krauss for Rough & Ready Lumber Co.

(Continued on reverse)

No.	Date Received	Agency, Organization, or Individual
22.	12/18/84	Dorland and Paul Matheny
23.	12/18/84	Mel Canal
24.	12/18/84	Daniel E. Goltz, Timber Manager Eugene F. Burrill Lumber Co.
25.	12/18/84	Early Elmone, Illinois Valley Soil and Water Conservation District
26.	12/18/84	Harold L. Pedrick
27.	12/17/84	Jim Geisinger, Western Forest Industries Association
28.	12/17/84	Ed & Sara Smith
29.	12/17/84	Gordon Farnsworth
30.	12/17/84	Sue Joerger, Southern Oregon Timber Industries Association
31.	12/19/84	Michael S. Meredith
32.	12/19/84	Martin G. Bauer; Portola Properties Inc.
33.	12/19/84	Edgar A. Kupillas; Southwest Forest Industries
34.	12/19/84	Candace Morasch
35.	12/19/84	W.B. Newby
36.	12/19/84	Susan Delles
37.	12/19/84	Ray & Peg Prag
38.	12/19/84	Jean Patterson, Deer Creek Valley Natural Resources Conservation Association
39.	12/19/84	Jerry Barnes, Jackson County Commissioner
40.	12/19/84	Tom Wicklund, Rogue Valley Audubon Society
41.	12/19/84	Conney Lindley
42.	12/19/84	Ester F. Goldbey
43.	12/19/84	Joe Knotts

No.	Date Received	Agency, Organization, or Individual
44.	12/20/84	Dennis Hayward, Northwest Timber Association
45.	12/20/84	Steven Swanson, Superior Lumber Co.
46.	12/20/84	Harry Hutton, Pacific Power & Light Co.
47.	12/20/84	Michael Bormuth, Medford Corporation
48.	12/20/84	Mr. & Mrs. E. Smalley
49.	12/20/84	Bob Pleu
50.	12/20/84	Jan Bullard
51.	12/20/84	Daniel Stoner, LeeAnn Stoner, & Heather Stoner
52.	12/21/84	Russell D. Park, Thompson Creek Residents for Ecological Education (TREE)
53.	12/21/84	Paula Downing, Crooked Cedar Concerned Citizens; Headwater
54.	12/21/84	Andy Kerr, Oregon Natural Resources Council
55.	12/21/84	Duane Crites, Timber Products Co.
56.	12/21/84	David Erion, Rogue Group Sierra Club
57.	12/21/84	Russell J. McKinley, Boise Cascade Corporation
58.	12/21/84	Diane Albrechtsen and Genevieve Windsor for Threatened and Endangered Little Applegate Valley (TELAV)
59.	12/21/84	Myron Cretney
60.	12/21/84	Marie Reeder, Southern Oregon Northwest Coalition for Alternatives to Pesticides (SONCAP)
61.	12/21/84	Duane W. Smith, Gregory Forest Products, Inc.
62.	12/21/84	Calvin C. Lloyd, Mountain Fir Lumber Co., Inc.
63.	12/21/84	Jo Bigman
64.	12/21/84	Mrs. Don Roeder

No.	Date Received	Agency, Organization, or Individual
65.	12/24/84	Steve Marsden, Earth First
66.	12/24/84	Ralph Saperstein, Douglas Timber Operators Inc.
67.	12/24/84	Bruno C. Meyer, Medford Corporation
68.	12/24/84	Ruth Acord
69.	12/24/84	Don W. Johnson
70.	12/24/84	Richard H. Felgenhour, Industrial Forestry Association
71.	12/24/84	Ray Doerner, Association of O & C Counties
72.	12/24/84	Robert S. Burd, U.S. EPA
73.	12/24/84	Dan Carlesan, Oregon Dept. of Fish & Wildlife
74.	12/24/84	Society of American Foresters, Siskiyou Chapter
75.	12/24/84	Robert Brothers
76.	12/24/84	Bruce R. Boccard, Soda Mountain Resource Council
77.	12/26/84	Kathy Gaines
78.	12/27/84	Phyllis Cribby for Southern Oregon Citizens Against Toxic Sprays
79.	01/02/85	Gregory A. Miller, Associated Oregon Loggers, Inc.
80.	12/28/85	Thomas R. Bispham, State of Oregon Dept. of Environmental Quality

No return address
Postmark dated 11/19/84

1

BLM,

What a sham. You guys are proposing to clearcut 2 x the amount and leaving fewer trees on the shelterwood. What a crime. You should be taken down for such a proposal.

More holes in the landscape means to me you will be killing — 1. fish 2. more trees than should be 3. air slash burn 4. water 5. etc.

You a joke and when you; as BLM; ever do anything according to a more natural plan — then and only then will people consider you anything but rapers of the forest and chemical polluters only in the chase of the almighty buck.

My recomendations, Randy

1. Lower your tree kill count
2. protect fisheries and stream siltation
3. promote Tourism not craters in the landscape
4. eliminate your mentality of poisons and chainsaws

RECEIVED
NOV 1984
BUREAU OF LAND MGT.
MEDFORD, OREGON

2

SPALDING & SON, INC.
Lumber Manufacturers
AND WHOLESALERS
P.O. Box 436
Grants Pass, Oregon 97526
(503) 476-4446

November 19, 1984

Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97501

Re: Draft Supplemental Environmental Impact Statement

Gentlemen:

I had the pleasure of attending your informational meeting on the Draft Supplemental Environmental Impact Statement (SEIS) on November 13, 1984. The explanations of the proposed changes in clearcut and partial cut (shelterwood) acres were presented very clearly. Having attended the Forestry Intensified Research (FIR) meeting earlier in the day I was aware of the scientific data that supported your proposed changes.

Most of the negative criticism expressed over the SEIS dealt with perceived harmful environmental consequences and a lack of data (technical support) to justify the planned changes. However, the FIR program has generated the data to support your planned changes in management.

2-1 There are three areas of concern that were brought up that do need to be addressed by the BLM. First, the increase in air pollution expected with these changes needs to be discussed more thoroughly. That, coupled with an explanation of why the burning must be done and the dramatic positive results expected from planting in burned areas must be documented.

2-2 Secondly, there seemed to be some confusion over the terms stocked and established. A small discussion or a glossary of terms used could eliminate some perceived problems. To the layman, acceptable or unacceptable damage is a big gray area. There are surely many other terms that could use some definition to aid the public.

2-3 Lastly, this SEIS and the BLM informational meeting appeared to the public to have no meaning. That is, they felt the BLM was saying "here is what we will be doing in the future". It was felt that the BLM did not offer any alternative methods of management so the public could weigh one against the other.

With this criticism there must be some positive support so the BLM knows that the entire public is not against their proposed changes. As a Timber Manager I do support these changes. I think they are overdo. The change in methods are environmentally sound. It will require less road construction and less herbicide need. It will promote community stability by being more economical, for the BLM and the O & C counties. It will, in turn, provide better roads and help insure that the major employers can continue to offer jobs to keep the local economy rolling. For these reasons I support your change in direction on managing the BLM lands.

Sincerely yours,

Robert P. Watson
Timber Manager

rpw

Member

Douglas Fir • White Fir • Sugar Pine • Ponderosa Pine • Incense Cedar • Port Orford Cedar

3

November 17, 1984

Bureau of Land Management
3040 Biddle Road
Medford, OR 97501

Dear Sirs:

We are writing to protest the Bureau's decision to increase the acreage to be set aside in three southern Oregon counties over a ten-year period.

We believe, simply, that clearcutting benefits only timber companies harvesting those trees. It cuts their overhead. Period.

3-1 We do not believe that clearcutting holds any benefits for the forest as a whole, or its inhabitants, or the soils and watersheds it grows out of. Nature upholds our belief. Clearcutting is a human invention, devised solely to facilitate easy mass removal of timber trees from the forest.

3-2 We do believe that clearcutting damages the forest, the soil, and the watershed. It would be bad enough, if such damage could be justified as necessary to preserve the forest, or remove diseased trees, etc. But corporate profit is not sufficient justification for such wholesale mining of our public resources.

As stewards of these lands, your duty is clear: to manage them in the best possible way for the greater good of the greater number of American citizens--the true owners of these lands. By acceding to the ever-present demands of timber corporations for greater access to cheaper timber, you are selling our resources at bargain-basement prices to combines that will always put private profit above the public good. No amount of mumbo-jumbo about jobs, or double-talk about doing the forest and its wildlife a favor by defoliating large tracts of trees, can disguise the fact that the bottom line in all these transactions is corporate profit.

3-3 What is particularly disturbing about all this is the recent revelation that the replanting of harvested land is lagging farther and farther behind. In light of this fact, how can your agency justify increasing the most devastating form of timber harvest currently allowed?

We believe it is time the Bureau of Land Management, and the Interior Department as a whole, quit listening to the urgings of profit-hungry timber--and cattle, and mining--interests, and took its job as a sacred trust, not only to present American citizens, but to those unborn generations yet to come.

We believe that a beginning can be made with a reversal of this plan to increase the three-county clearcutting allowance.

Sincerely,

Richard J. Hunter

Phillip D. Hunter
Nancy I. Hunter
528 Pearl Street
Medford, OR 97504

4

11/21/84

BLM
3040 Biddle Rd.
Medford, Ore.
97501

NOV 1984
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BUREAU OF LAND MGT.
MEDFORD, OREGON

Dear Sirs,

It has recently come to my attention that the BLM has a new 10 year plan for Josephine & Jackson counties, that would increase clearcutting by 46,300 acres and decrease the shelterwood harvest by 59,000 acreas. And would leave only 10 to 12 trees as shelterwood.

I ask you to reconsider this plan & perhaps to remember the Southern California "mud slides". What a disaster!

I've lived here all of my life and although I'm only 28 years old, I can remember when we didn't have pollution & now I see it get worse every summer, 4-1 and we've always had a bit of a problem with flooding throughout the years. And in my mind, this new plan will contribute to both of these problems.

Please consider my opinion and help us to protect our land, and revise your ten year management plan.

Sincerely,
Cindy Rees
216 SW Marion Ln.
Grants Pass, Ore.
97527

5

11-21-84

Dear Sirs:

I am enclosing a copy of a letter to the editor of the Illinois Valley News in Cave Junction, Oregon.

Please read the letter carefully as it was written with care.

I wish to inform your office that I support the principles alluded to in Mr. Patterson's letter and I wish you to not increase clear cutting from 9,000 to 55,300 acres. I also want you to not decrease the shelterwood harvest.

Sincerely,
Kathy Murdock
P.O. Box 84
Selma, Oregon
97538

NOV 1984
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BUREAU OF LAND MGT.
MEDFORD, OREGON

To the Editor:

The Bureau of Land Management has released a draft supplement to the Final Environmental Impact Statements (FEISs) for Josephine and Jackson-Klamath Ten-Year Management Plans. This plan includes an increase in clearcutting from 9,000 to 55,300 acres and a decrease in shelterwood harvest from 110,000 to 51,000 acres. It also includes leaving only 8 to 12 trees on these 51,000 acres as shelterwood.

5-1 This action would mean an increase in water run-off, erosion, a decrease in underground water and "Would result in increased air pollutants from a corresponding increase in slash burning."

What this boils down to is you will end with auto inspections so that BLM can burn more slash. Those of you with lung or heart problems will also end up paying more for medical care.

Public hearings were held Nov. 13 at BLM office, 3040 Biddle Rd., Medford 97501. Written comments must be submitted by Dec. 21, 1984.

W. J. Patterson
Deer Creek Valley Natural
Resources Conservation Assn.
Chairman

6

814 Hillview Drive
Ashland, OR 97520
Nov. 26, 1984

Mr. Hugh R. Shera, District Manager
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97504

Dear Mr. Shera:

The following comments are submitted for your consideration in the preparation of the final Supplemental Environmental Impact Statement for the Josephine/Jackson-Klamath Timber Management document:

The Supplemental EIS proposes a radical shift in the ten year plan from shelterwood to clearcutting, with a decrease of 39,000 acres of shelterwood and an increase of 46,000 acres of clearcutting.

To be successful, the clearcuts must be reforested - promptly and with effective, low cost control of competing vegetation.

6-1 Nowhere does the report address these key factors, except for a couple of general statements about advances in silviculture and about what it takes for successful reforestation. That is not enough to justify more cut and run logging.

Where in the report has a program been set forth for reforestation planting, and for suppression of competing vegetation? Have plans been made for the supply of seedlings for planting 11,000 acres of clearcut each year, containerized and from compatable seed sources?

What methods are going to be used to control competing vegetation. BLM testimony states that brush is already out of control on many shelterwood sites. With more restrictions by the courts on aerial spraying of herbicides, low cost control is going to be difficult to obtain. And clearcuts will encourage more brush growth than do shelterwood cuts.

6-2 The report should also compare the cost of removing the competing growth from existing shelterwoods, to the cost of reforesting new clear cuts.

6-3 The proposal to reduce the number of trees in existing shelterwoods from 12 to 16 per acre down to 8 to 12 per acre leaves too few trees to act as shelter. Most of the remaining ones will blow over and/or die. It is questionable that the BLM has enough field experience to know that this is a proper thing to do.

On the basis of the draft EIS , there does not appear to be a valid justification to make such a major shift from shelt-

-1- Cont.

Cont.

6-3 erwood to clearcuts. Nowhere does the report show that the new plan will work and that the BLM is prepared to make it work. On a worst-case basis the public will be left with more failed clearcuts, and the sustained yield goals will not be met.

The public, to whom these forests belong, is entitled to a complete and effective management plan.

Sincerely

Charles H. Inman

Charles H. Inman

copy: Senator Mark Hatfield
Representative Jim Weaver

-2-

Medford Mail Tribune May 4, 1984

Packwood calls reforestation plan 'insufficient'

By DANA BOTTORFF
Ottaway News Service

WASHINGTON — A federal plan to reforest 317,000 acres of timberland in 1985 is insufficient, Sen. Bob Packwood, R-Oregon, told the U.S. Forest Service chief this week.

In a letter to Forest Service Chief Max Peterson, Packwood said the Forest Service's proposed $81 million reforestation budget for fiscal 1985 is "inexcusable when we are harvesting trees at a greater rate than we are reforesting our nation's forests."

The budget request calls for reforestation of about 317,000 acres nationwide, including 35,000 acres in Oregon.

Forest Service officials acknowledge that about 456,500 new acres of land nationwide will be added in 1985 to the backlog of lands needing reforestation.

Though the $81 million fiscal 1985 request is higher than what Congress appropriated for fiscal 1984, it is about half the reforestation outlay in fiscal 1983, a year when the Forest Service "caught up" with some backlogged areas that needed replanting, according to Packwood aide Etta Fielek.

Packwood wants the Forest Service to continue the 1983 level of increase, Ms. Fielek said.

However, the fiscal 1985 request is higher than the appropriations made in fiscal years 1982 and 1984, according to U.S. Forest Service figures.

In those years, the congressional appropriations for reforestation were $58.5 million and $67.7 million respectively. Those funds were used for reforestation on lands that were hit by forest fires, insects, brush overgrowth and other natural phenomena. Additional money was used each year for reforestation of harvested timber lands from a federal fund in which timber companies make reforestation deposits when they buy Forest Service trees.

Reforestation in the Rogue River National Forest during the current fiscal year is pegged at 2,288 acres, for a budget of $1.3 million, according to Allen Anderson, a Forest Service vegetation management specialist.

7

Nov. 26, 1984

Al Lawson, B.L.M.
Dear Sir,

I am a concerned citizen as to timber harvest practices, especially pertaining to clear cutting. We live East of Ruch on Woodrat Mountain, adjoining B.L.M. property. Approximately 10 years ago there was a timber sale near us, a selective cut. I can't fault B.L.M. with the way this was done. But other areas on Woodrat and Squires that were clear-cut prior to our moving here in 1968 are in sad shape.

1 In our area of the state where the soil is shallow and the summers dry and sometimes hot, new trees need shade and protection to survive. And with drastic logging, such as is a part of clear cutting, there is also erosion of precious top soil.

At best, harvestable trees will require 50-80 years. There must be some more far-sighted policies or our children and grandchildren will have a heritage of bare barren mountains - and no timber industry.

Cordially,
Mrs. Louise Allen
638 Haven Road,
Jacksonville,
Oregon
97530

Sun., Nov. 25, 1984

What's a tree worth?

What is the value of a tree? There are a number of ways to figure this, and Harry Elliott of the Grants Pass Courier ran across some of them in a recent issue of Sports Afield, that are worth passing on.

The story is that a Professor T.M. Das of the Agricultural University of Calcutta in India calculates that over a 50-year period a tree (species unspecified) is worth as much as $196,250.

How so? He starts by calculating that it produces $31,250 worth of oxygen alone. On top of that, the filtration of air pollution from the atmosphere is worth another $62,500.

A tree will also help control soil erosion, and adds to soil fertility, and these together are worth an additional $31,250. It will also recycle water and help control humidity, adding another $37,000 in value.

Add $31,250 for sheltering animals and $2,500 for protein production, and the total over the years comes to just over $196,000. This does not include any fruits that may be produced, the beauty of the tree, or the lumber that it may provide at the end of its useful life.

That last factor, its value when "harvested," is minor when compared with its other values, coming to less than .3 percent of the real value of a tree. Yet even at their commercial lumber price, they provide a good economic base for much of the world.

Such figures make it easier to understand why there is so much concern in some circles about the deforestation of many parts of the world, particularly the tropical rain forests of Asia, Africa and South America. The true value of a tree, as shown in the figures cited (which may or may not be exact, but which certainly are interesting and provocative), is subjugated to the more immediate needs of the local economies. But it is lost to the long run, where the true values lie.

It is another example, among so many, of being penny wise and pound foolish. And it is a reminder of another simple question, "Of what use is a baby?"

The answers to both can be given in short-term and long-term responses, and in each the long-term response is usually the correct one, at least for the real good of the race. — E.A.

The MAIL TRIBUNE
First Amendment Award, 1976
Pulitzer Award, 1934
Gilbert A. Bogley, Publisher
Eric W. Allen Jr., Editor
John Reid, Managing Editor

8

Kogap Manufacturing Company
Our goal: Complete forest crop utilization
P.O. BOX 1608 • MEDFORD, OREGON 97501 • (503) 776-6500

November 27, 1984

District Manager
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97504

Dear Sir:

Although I was unable to attend the public hearing on the BLM Supplemental EIS, I would like to have my comments considered. 8-1 Because of the success of planting clear cuts in recent years and especially because of the encouraging planting tests by FIR the move to more clear cutting not only offers major economic advantages but is also good forestry. Clear cutting provides reduced cost of sale preparation to the BLM and reduced cost of logging and cultural treatments because of one entry compared to multiple entries. The EIS should address these economic advantages.

I believe the BLM has acted in a responsible manner by considering the concerns raised by what must be a very tiny minority of the public. If this segment is truly concerned about the environment they should be happy to have less roads constructed per thousand board feet of harvest and to have less acres entered each year both of which are the result of cutting the same annual volume on less acres. The environmental affects are all positive since better wildlife feed grows in clear cuts and more edge effect favors most game and non-game species. Since less road will be constructed and less acres harvested the potential for erosion is also lessened although little erosion can be noted under current practices.

KOGAP MANUFACTURING COMPANY

David F. Keiser
Woods Manager

DFK/sh

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MEDFORD, OREGON

9

OREGON INTERGOVERNMENTAL PROJECT REVIEW

State Clearinghouse
Intergovernmental Relations Division
155 Cottage Street N. E.
Salem, Oregon 97310

Phone (503)378-3732 or Toll Free in Oregon 1-800-422-3600

STATE CLEARINGHOUSE REVIEW ADDENDUM

APPLICANT: BLM MEDFORD

PROJECT TITLE: FY'84 TIMBER SALE PLAN SUPPLEMENT

PROJECT NUMBER: OR841008-006-5

DATE: November 26, 1984

The State Clearinghouse has received additional comments from

STATE HISTORIC PRESERVATION OFFICE

subsequent to our conclusion letter of November 20, 1984.

Please see copy(ies) attached for your attention.

Additional Clearinghouse comments:

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BUREAU OF LAND MGT.
MEDFORD, OREGON

☒ Please consider this letter and enclosure(s) an addendum to our previous letter.

☐ The Clearinghouse is forwarding a copy of this letter and enclosure to the federal funding agency.

If you have questions please contact the State Clearinghouse at the above address and telephone number.

IPR #10

OREGON PROJECT NOTIFICATION AND REVIEW SYSTEM

STATE CLEARINGHOUSE

Intergovernmental Relations Division
155 Cottage ST NE Salem, Oregon
Phone: 378-3732 97310

NOV 23 1984

PNRS STATE REVIEW

Project #: OR 841008-006-5 Return Date:

To Agency Addressed: If you intend to comment but cannot respond by the return date, please notify us immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO STATE CLEARINGHOUSE: We have reviewed the subject Notice and have reached the following conclusions on its relationship to our plans and programs:

☐ It has no adverse effect.
☐ We have no comment.
☐ Effects, although measurable, would be acceptable.
☐ It has adverse effects. (Explain in Remarks Section)
☐ We are interested but require more information to evaluate the proposal. (Explain in Remarks Section)
☒ Additional comments for project improvement. (Attach if necessary)

REMARKS (Please type or print legibly)

Medford BLM

9-1 Compliance with 36 CFR 800 should be documented.

FOR FURTHER INFORMATION
PLEASE CONTACT LELAND
GILSEN AT 378-6023

Agency SHPO By

Phone Number

PNRS #2

10

9647 Wagner Creek
Talent, OR 97540
26 November 1984

Mike Walker, Team Leader
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Mr. Walker:

This letter details my concerns with your agency's Draft SEIS to the Josephine/Jackson-Klamath Timber Management Plans. I attended the public meeting 13 November 1984 to acquaint myself with this issue, but did not make a statement. I heard Mr. Abee's talk with slide show and was disappointed that he failed to discuss air quality. This issue is inadequately dealt with in the Draft SEIS, as well.

I have analysed the figures you present (Draft SEIS,p.8) concerning air quality, and come to different conclusions from yours. My analysis is presented below.

10-1 While it is true that you propose an increase of only 3.7 % in the amount of acreage burned when the district is considered as a whole, the effect on the two SYU's is quite different when considered separately (see Table 1). You are proposing to increase the amount of burning only 1% in the J-KSYU, but the JSYU will apparently experience a 10% increase in burned acreage under the Draft SEIS. Your treatment of these two SYU's is significantlydifferent, and I believe the BLM should address the air quality issue separately for each SYU. Your reported figure (3.7%) is misleading and does not accurately represent the increase in either the JSYU or the J-KSYU. Because these two SYU's have separate EIS's on file at the Environmental Protection Agency, and because your proposed treatment of the two SYU's is significantly different, your agency is probably negligent if you do not file separate supplements to the JSYU and J-KSYU EIS's.

TABLE 1. A comparison of acres burned under the present TMP and the draft SEIS for the Josephine Sustained Yield Unit (JSYU) and Jackson-Klamath Sustained Yield Unit (J-KSYU).

SYU Name	TMP Burning	Draft SEIS Burning	% Increase
Josepnine	10,000 ac.	11,000 ac.	10%
Jackson/ Klamath	23,700 ac.	24,000 ac.	1%

10-2 I am concerned that your agency misrepresents the true magnitude of the proposed increase in burning in the JSYU when it says in the Draft SEIS (p.8) "This anticipated 3.7% increase in site preparation by burning would result in a like increase in pollutants from BLM slash burning." The Josephine SYU will apparently be subjected to not 3.7% increase as you state, but 10% greater air pollution than you proposed in the FEIS's TMP. This needs to be explained more clearly in the Draft SEIS so residents of southern Oregon can be aware of the true magnitude of your proposed changes and make comments to you about this.

I am concerned that your agency is proposing to go ahead with the site preparation schedule proposed and approved in the JSYU and J-KSYU FEIS's. These documents outlined the number of acres slated for site preparation during the decade. A reader can assume that burned acres/year might have remained fairly constant during the ten year time frame included in the FEIS's, but an examination of the Draft SEIS reveals a different story.

During the first five years since implementation of the JSYU TMP your agency has burned 4200 acres in that area (Draft SEIS, p.8). This translates to 840 acres/year burned in this SYU (seeTable 2). In the final five years of your ten year management plan, and including the changes in this plan summarized in the Draft SEIS, your agency proposes to burn 6800 acres. This translates to 1360 acresto be burned/yearinthe JSYU,a 62% increase in acres burned/year over the preceding five year period.

During the first four years since implementation of the J-KSYU TMP your agency has burned 5400 acres in that area (Draft SEIS, p.8.), an average of 1350 acres burned/year. In the remaining six years of the ten year TMP, and including the changes to that plan you summarize in the Draft SEIS, your agency proposesto burn 18,600 acres.This will be an average of3100 ac. burned/year for the next six years and represents a 130% increase in the amount of acreage burned annually in this SYU as compared to the annual burn during the first four years of the TMP (Table 2).

Table 2. Levels of site preparation under present TMP and proposed (Draft SEIS) timber management practices.

	Acres Burned		Acres Burned/Year		% Increase
SYU Name	1st 5 yr.	Next 5 yr.	1st 5	Next 5	Next 5:1st 5
Josephine	4200	6800	840	1360	62%
	Acres Burned		Acres Burned/Year		% Increase
SYU Name	1st 4 yr.	Next 6 yr.	1st 4	Next 6	Next 6:1st 4
Jackson/ Klamath	5400	18,600	1350	3100	130% $\bar{X}$ = 96%

10-3 TheRogueValley Airshed experiences some uniqueair trapping and non-circulating properties, and has come under local, state, and national scrutiny. Oregon's Department of Environmental Quality deems the situation serious enough to maintain year-round monitoring stations to track levels of pollutants in this airshed so that health hazard warnings may be issued when unsafe conditions exist in the air we breathe. Yet your agency apparently failedto send a copy of the Draft SEIS to the Oregon DEQ (it is not noted in the LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE SUPPLEMENT ARE SENT ,Draft SEIS,p.12). The DEQ should be notified of your plans for increased air-borne pollution of the Rogue Valley Airshed.

10-4 Your agency proposes to increase the levels of air-borne pollutants we have been experiencing here in the Rogue Valley. At the same time the DEQ has mandated stricter controls on the construction, installation, and use of wood stoves for home heating because of the alarming rise in urban levels of pollutants from burning wood, your agency is planning to increase output of wood-burning pollutants by an average of 96% district-wide. This issue is not even mentioned in the Draft SEIS. I believe you owe the public the chance to comment on this issue, and until you say directly and clearly what you intend to do this remains impossible. When you state in the Draft SEIS that site preparation will increase 3.7%, you create the false impression that your agency proposes only a minor change in TMP practices, when in actuality you apparently plan to increase site preparation (burning) 10% in the JSYU, and district-wide you plan to finish out this decade with a 96% increase in acres burned as compared with the first half of the decade. Your agency must address these issues in the SEIS, or members of the public who are interested in southern Oregon's air quality will find this document unsatisfactory.

Sincerely,
MarkSwisher
Mark Swisher

copies:
Oregon Department of Environmental Quality
Mark Prevost, ONRC
C. Bratt
J. Keller

11

United States Department of Agriculture
Forest Service
Pacific Northwest Region
319 S.W. Pine
P.O. Box 3623
Portland, OR 97208

Reply to 2410

Date December 4, 1984

Mr. Mike Walker, Team Leader
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Dear Mr. Walker:

Thank you for the opportunity to review the draft Josephine/Jackson-Klamath Timber Management Supplemental Environmental Impact Statement.

The draft supplement has been reviewed by personnel on the Rogue River, Siskiyou, and Winema National Forests as well as Regional timber and wildlife staff. The changes covered by this supplement seem to be nominal. We see no effects on National Forest resources or National Forest management coordination with the Josephine and Jackson-Klamath Sustained Yield Units.

Sincerely,

JEFF M. SIRMON
Regional Forester

cc:
Rogue River NF
Siskiyou NF
Winema NF
Director, Fish & Wildlife

12

Deja Vu Nursery
Container Grown Ornamental Plants
STEPHEN WILLIAMS
Grower

225 Stephen Way
Williams, Oregon 97544
Phone: 503 846-6002

DEC 6, 1984

'84 DEC -7 AM 10:45
MEDFORD, OREGON

MR. HUGH SHERA
DISTRICT MANAGER
MEDFORD BLM
3040 BIDDLE RD
MEDFORD, OR 97504

DEAR MR. SHERA,

I AM WRITING THIS CONCERNING THE PROPOSED SUPPLEMENTAL IMPACT STATEMENT TO THE 10 YEAR TIMBER PLAN FOR THE MEDFORD DISTRICT. SPECIFICALLY, CONCERNING THE INCREASE FROM 9,000 ACRES OF CLEAR CUT TO 55,300 ACRES.

NOT ONLY DO YOU FOLKS NOT INFORM THE CITIZENS EFFECTED
12-1 BY THESE CLEAR CUTS OF THE CUMULATIVE EFFECTS OF SUCH
PRACTICES BUT YOU ALSO CONSISTANTLY VIOLATE YOUR
OWN GUIDELINES FOR CLEAR CUTTING. GUIDELINES SET UP
12-2 BY THE CHURCH COMMITTEE, ADOPTED BY THE FOREST SERVICE,
AND INCLUDED IN YOUR OWN 10 YEAR PLAN. NOW YOU, THE BLM,
WANT TO CHANGE YOUR CLEAR CUTTING POLICIES IN MID-STREAM
AND INCREASE THE RESULTING DEVASTATION 6 FOLD. I, AS AN
EFFECTED CITIZEN, STRENOUSLY OBJECT TO THE MEDFORD DISTRICT
OF BLM INCREASING THE CLEAR CUTTING ACREAGE BEYOND THE
ALREADY CUT ACREAGE. WITHOUT INFORMING ANYONE YOU ALL
HAVE ALREADY GONE WAY BEYOND THE 9,000 ACRE LIMIT SET FORTH
IN YOUR OWN 10 YEAR PLAN. LET THE BUTCHERY STOP THERE.

I CAN SEE HOW EASY IT IS TO PROPOSE CHANGING ALLOWABLE
CUTTING WHEN YOU SIT BEHIND A DESK WITH YOUR MAPS. THE LANDS
INVOLVED ARE JUST IMAGES ON PIECES OF PAPER THAT AS AN END
RESULT REPRESENT DOLLARS AND CENTS. IT IS AN ALL TOGETHER
DIFFERENT PERSPECTIVE WHEN ONE LIVES ON THE LANDS INVOLVED
12-3 AND WATCHS STREAM FLOWS BECOME LESS AND LESS AS YEARS
GO BY, WATCH THE RESULTING FLOODING AND SILTING, AND WATCH
ONCE FORESTED HILLSIDES BECOME BARREN WASTELANDS.

IN CLOSING LET ME MAKE IT CLEAR THAT, AS A MEMBER OF THE WILLIAMS WATERSHED PROTECTION ASSOC., I STRENOUSLY OBJECT TO THE SUPPLEMENTAL IMPACT STATEMENT TO YOUR 10 YEAR PLAN BECAUSE IT IS EXCESSIVE, DOES NOT AT ALL SUPPORT A SUSTAINED YIELD POLICY AND LASTLY DOES NOT PUT FORTH THE CUMULATIVE EFFECTS OF SUCH POLICY CHANGE.

SINCERELY,

Stephen Williams

13

Dear Mr. Shera
I am writing to express my outrage concerning the BLM's increased clearcutting. As a resident of Williams I have witnessed unprecedented clearcutting in the past two years. I want it stopped! There are many other ways to harvest timber that will contribute to a sustained yield. Your/our clearcuts have failed to consider the full environmental impact. Silt and
13-1 debris in the streams, reduced wildlife habitat, extreme visual disturbances to the natural beauty of our valley, tangled, hard-to-manage regrowth are a few of
the major adverse impacts of this excessive clearcutting. All in the name of profit for the few. You are on the verge of creating a major climatic imbalancing. Please stop clearcutting now. Tee Martin
box 113 williams 97544

Claudia Beausoleil
4405 Cedar Flat rd.
Williams, Or. 97544

14

Dec. 5, 1984

District manager, Hugh Shera, Medford BLM
3040 Biddle rd.
Medford, Or. 97504

Dear Mr. Shera,

I am submitting this public comment before Dec 21, 1984. It was brought to my
attenition that BLM has intenitions to increase the amount of clear-cutting. I am
strongly opposed to this increase, in the Medford district. The supplemental
environmental impact statement for the 10 year timber plan proposes to increase
clearcuts from 9,000 to 55,300 acres. That's absurd, Is this considered good
14-1 forestry management for the years ahead. BLM can't keep up with reforesting an
equal amount to harvest out, BLM is reforesting, but not as fast as they are cutting.

14-2 Clearcutting causes undetermined cumulative effects on a watershed. The whole
ecosystem, wildlife habitat, water quality, soil erosions, and aquatic life are going
to be affected by clear cutting. In this proposed 10 year EIS timber plan, does it
14-3 cover cumulative effects in a watershed, during a ten year period ? This is information
I feel is important, especially when it effects the area where one lives.

Your response is much appreciated, concerning cumulative effects.

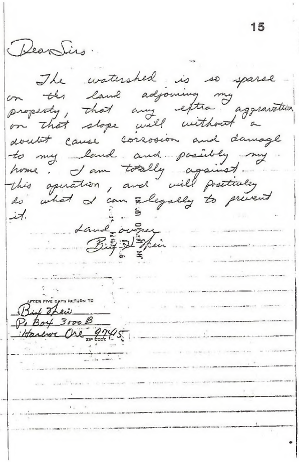
Thank you in advance,

sincerely,

Claudia Beausoleil

Claudia Beausoleil

15



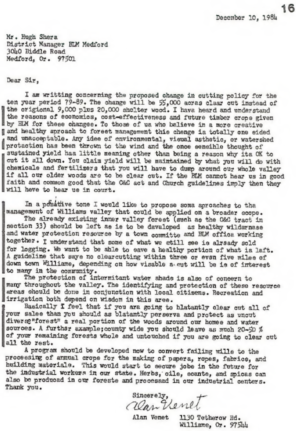
Dear Sirs:

The watershed is so sparse on the land adjoining my property, that any extra aggravation on that slope will without a doubt cause corrosion and damage to my land and possibly my home. I am totally against this operation, and will positivley do what I can legally to prevent it.

Land owner
Biff H. Shein

AFTER FIVE DAYS RETURN TO
Biff Shein
P. Box 3000 B
Harbor Ore 97415
ZIP CODE

16



December 10, 1984

Mr. Hugh Shera
District Manager BLM Medford
3040 Biddle Road
Medford, Or. 97501

Dear Sir,

I am writting concerning the proposed change in cutting policy for the ten year period 79-89. The change will be 55,000 acres clear cut instead of
16-1 the origional 9,000 plus 20,000 shelter wood. I have heard and understand the reasons of economics, cost-effectiveness and future timber crops given by BLM for these changes. To those of us who believe in a more creative
16-2 and healthy aproach to forest management this change is totally one sided
16-3 and unacceptable. Any idea of environmental, visual asthetic, or watershed protection has been thrown to the wind and the once sensible thought of
16-4 sustained yield has little meaning other than being a reason why its OK to cut it all down. You claim yield will be maintained by what you will do with chemicals and fertilizers that you will have to dump around our whole valley if all our older woods are to be clear cut. If the BLM cannot hear us in good faith and common good that the O&C act and Church guidelines imply then they will have to hear us in court.

16-5 In a positive tone I would like to propose some aproaches to the management of Williams valley that could be applied on a broader scope.
The already existing inner valley forest (such as the O&C tract in section 33) should be left as is to be developed as healthy wilderness and water protection resource by a town committe and BLM office working together. I understand that some of what we still see is already sold for logging. We want to be able to save a healthy portion of what is left. A guideline that says no clearcutting within three or even five miles of down town Williams, depending on how visable a cut will be is of interest to many in the community.

16-6 The protection of intermitant water shads is also of concern to many throughout the valley. The identifying and protection of these resource areas should be done in conjunction with local citizens. Recreation and irrigation both depend on wisdom in this area.

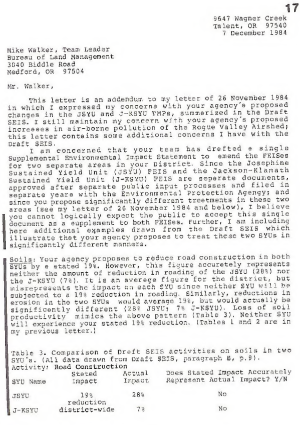
16-7 Basically I feel that if you are going to blatantly clear cut all of your sales than you should as blatantly perserve and protect as uncut diverse "forest" a real portion of the woods around our homes and water sources. A further example; county wide you should leave as much 20-50 % of your remaining forests whole and untouched if you are going to clear cut all the rest.

A program should be developed now to convert failing mills to the processing of annual crops for the making of papers, ropes, fabrics, and building materials. This would start to secure jobs in the future for the industrial workers in our state. Herbs, oils, scents, and spices can also be produced in our forests and processed in our industrial centers. Thank you.

Sincerely,
Alan Venet

Alan Venet 1130 Tetherow Rd.
Williams, Or. 97544

17



9647 Wagner Creek
Talent, OR 97540
7 December 1984

Mike Walker, Team Leader
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Mr. Walker,

This letter is an addendum to my letter of 26 November 1984 in which I expressed my concerns with your agency's proposed changes in the JSYU and J-KSYU TMPs, summarized in the Draft SEIS. I still maintain my concern with your agency's proposed increases in air-borne pollution of the Rogue Valley Airshed; this letter contains some additional concerns I have with the Draft SEIS.

I am concerned that your team has drafted a single Supplemental Environmental Impact Statement to amend the FEISes for two separate areas in your District. Since the Josephine Sustained Yield Unit (JSYU) FEIS and the Jackson-Klamath Sustained Yield Unit (J-KSYU) FEIS are separate documents, approved after separate public input processes and filed in separate years with the Environmental Protection Agency; and since you propose significantly different treatments in these two areas (see my letter of 26 November 1984 and below), I believe
17-1 you cannot logically expect the public to accept this single document as a supplement to both FEISes. Further, I am including here additional examples drawn from the Draft SEIS which illustrate that your agency proposes to treat these two SYUs in significantly different manners.

17-2 Soils: Your agency proposes to reduce road construction in both SYUs by a stated 19%. However, this figure accurately represents neither the amount of reduction in roading of the JSYU (28%) nor the J-KSYU (7%). It is an average figure for the district, but misrepresents the impact on each SYU since neither SYU will be subjected to a 19% reduction in roading. Similarly, reductions in erosion in the two SYUs would average 19%, but would actually be significantly different (28% JSYU; 7% J-KSYU). Loss of soil productivity mimics the above pattern (Table 3). Neither SYU will experience your stated 19% reduction. (Tables 1 and 2 are in my previous letter.)

Table 3. Comparison of Draft SEIS activities on soils in two SYU's. (All data drawn from Draft SEIS, paragraph B, p.9).

Activity: Road Construction

SYU Name	Stated Impact	Actual Impact	Does Stated Impact Accurately Represent Actual Impact? Y/N
JSYU	19% reduction district-wide	28%	No
J-KSYU		7%	No

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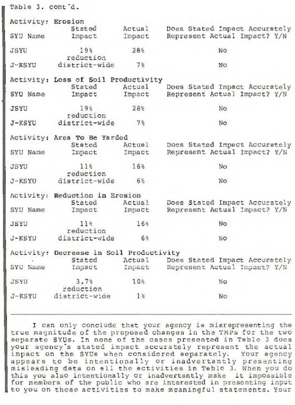

Table 3. cont'd.

Activity: Erosion

SYU Name	Stated Impact	Actual Impact	Does Stated Impact Accurately Represent Actual Impact? Y/N
JSYU	19% reduction district-wide	28%	No
J-KSYU		7%	No

Activity: Loss of Soil Productivity

SYU Name	Stated Impact	Actual Impact	Does Stated Impact Accurately Represent Actual Impact? Y/N
JSYU	19% reduction district-wide	28%	No
J-KSYU		7%	No

17-2 Activity: Area To Be Yarded

SYU Name	Stated Impact	Actual Impact	Does Stated Impact Accurately Represent Actual Impact? Y/N
JSYU	11% reduction district-wide	16%	No
J-KSYU		6%	No

Activity: Reduction in Erosion

SYU Name	Stated Impact	Actual Impact	Does Stated Impact Accurately Represent Actual Impact? Y/N
JSYU	11% reduction district-wide	16%	No
J-KSYU		6%	No

Activity: Decrease in Soil Productivity

SYU Name	Stated Impact	Actual Impact	Does Stated Impact Accurately Represent Actual Impact? Y/N
JSYU	3.7% reduction district-wide	10%	No
J-KSYU		1%	No

I can only conclude that your agency is misrepresenting the true magnitude of the proposed changes in the TMPs for the two separate SYUs. In none of the cases presented in Table 3 does your agency's stated impact accurately represent the actual impact on the SYUs when considered separately. Your agency appears to be intentionally or inadvertantly presenting misleading data on all the activities in Table 3. When you do this you also intentionally or inadvertantly make it impossible for members of the public who are interested in presenting input to you on these activities to make meaningful statements. Your

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planning team would do well to consider separately the impacts of your proposed management activities on the two SYUs.

17-3 Water Resources: Your agency presents no supporting data to defend your estimates of increases in water yield in the two SYUs (Draft SEIS, paragraph C, p.9). Your statement to the effect that the JSYU will experience 1.0% and the J-KSYU will experience 0.5% greater water yields under the proposed plans are completely without substantiation. This statement will not stand up under public scrutiny unlesa you back it up by showing how you arrived at this figure.

17-4 Animals: Aside from your artificial construct of separating out fish from other animals, your agency faila to consider the tremendous variety of animals on the District. You mention deer and elk use of clearcuts; what about loss of nesting habitat for forest birds when clear-cutting occurs? You fail to discuss the effects of loss of forest feeding niches when clear-cutting occurs. You fail to discuss the effects your proposal will have on sight distances in the two SYUs. You fail to discuae thermal cover requirements of animals and the effects your proposal will have on this habitat need. You fail to discuss species richness as it relates to habitat diversity, and the effects your proposed increased clearcutting (and concommitant emphasis on conifer monoculture) will have in reducing species diversity on managed areas of the District. You fail to mention microhabitat changes that will certainly accompany your proposed changes in the TMPs such as increased loss of rotten logs and fallen litter and the invertebrate and vertebrate fauna that inhabit this area of the forest. Your proposed 96% increase in burning in the district (see my letter of 26 November 1984) will eliminate dead and down habitats at an accelerated rate across the District, yet you fail to even mention this subject in the Draft SEIS. What effect will this 130% increase in annual burned acres in J-KSYU (and the 62% increase in burned acres/year in JSYU) have on those wildlife species inhabiting forest litter layers?

17-5 The original EISes you filed for these two SYUs considered the effects of clearcutting and concommitant site preparation on 16% of District lands. Clearly, your agency has far exceeded 9000 acres clearcut and has proceeded to clearcut acres you identified as unsuitable for clearcutting in these original FEISes. By clearcutting over 20,000 acres aa of this time, your agency hae exceeded the limits of the studies done for the FEISes. Your original descriptions of wildlife, fish, air quality, soils, water resources, vegetation, recreation, cultural resources, visual resources, and special areas all assumed a 16% clearcutting limit on the District and were written to describe the effects on each of these resources if such a limit were adhered to. By clearcutting more than 100% above the deacribed limits in the FEISes, you invalidated the descriptive aspects of theae FEISes; I believe your agency must begin anew the process of gaining public approval of your modified timber harvest plans for the Diatrict. Your efforts to amend the FEISes do not adequately deecribe the effect your proposed increase in clearcutting (and reduction in shelterwood cutting) will have on all the resourcea of the District.

In summary, I have shown where your agency has failed to adequately represent the actual impact of your proposed changes on the TMPs, but rather has intentionally or inadvertantly published data that distorts the true effect these changes will have on the two SYUs. I have shown numerous additional examples where your proposed changes in the TMPs of the two SYUs differ significantly from one another, and I have reiterated my objections to your egency's filing one SEIS for the two FEISes on file with the EPA. I have summarized my concerns with how you treated several additional subjects in the Draft SEIS including: Soils (Erosion, Loss of Productivity), Road Construction, Area to be Yarded, Burning for Site Preparation, Water Resources (Yield), and Animals. It is my hope that your agency will address these and other concerns when you put together the next drafts of the Supplemental Environmental Impact Statements for the two separate Sustained Yield Units.

Sincerely,

Mark Swisher

Mark Swisher

copies:
J.Keller
C.Bratt
M.Prevost,ONRC
O.Swisher

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VICTOR ATIYEH
GOVERNOR

Executive Department
155 COTTAGE STREET NE., SALEM, OREGON 97310

December 11, 1984

District Manager
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

SUBJECT: Josephine/Jackson-Klamath Timber Management
OR841031-041-4

Thank you for submitting your draft supplemental Environmental Impact Statement for State of Oregon review and comment.

Your draft was referred to the appropriate state agencies for review. There were no comments.

We will expect to receive copies of the final statement as required by Council of Environmental Quality Guidelines.

Sincerely,

INTERGOVERNMENTAL RELATIONS DIVISION

Dolores Streeter

Dolores Streeter
Clearinghouse Coordinator

DS:bm

HEADWATERS
P. O. Box 1075 Grants Pass, OR. 97526

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SERVICE ACCEPTED IN
OFFICIAL CAPACITY ONLY
12-17-84 11:25 am

December 17, 1984

Mr. Hugh Shera, District Manager
Bureau of Land Management
3040 Biddle Road
Medford, OR 97501

Dear Mr. Shera:

Re: Proposed Draft Supplement to Josephine and Jackson/
Klamath Timber Management EISs (DSEIS)

I. Lack of Public Participation and Good Faith Remedies The DSEIS Deficient and Inadequate.

19-1 HEADWATERS has written to you regarding the proposed draft supplement to the J and JKFES on two previous occasions. Once on August 24, 1984 and again on September 13, 1984. Both of our letters requested more public input prior to the Draft Supplement being released. Our September 13, 1984 letter stated:

> "We believe the changes you are about to make in the existing EISs are of regional, and possibly national significance. The fact that you will be proposing a very significant increase in the amount of clearcutting to take place on the District (56,000 vs. 9,000 acres in ten years) gives the proposed supplements significance and interest beyond the local level. Therefore, 'the scope of public participation must be at the same level of significance and encompass the broadest public involvement to insure diversity and to reach as much of the public as possible.' (BLM Manual 1601.I.B.4).
>
> In announcements to the press you have claimed that the supplemental EISs are being prepared as a result of 'perceived differences' between the public and the BLM. To our knowledge, none of the public interest groups who raised the issue of disparities in clearcutting has been invited to discussions with the BLM. The BLM Manual calls for 'public participation during all phases' of the planning process, and a planning process that 'must be flexible enough to adapt to significant public concerns interjected into the planning process at any point.'"

19-2 You have rejected our suggestion to identify other significant issues and impacts which we feel should have been addressed in the draft document. You have also rejected our wish to meet with you and become a "partner in the planning process." You have relegated our input to one public meeting and "review and comment" on the DSEIS based only on issues you deem important. We consider this decision on your part as lack of good faith in dealing with a concerned public. Further, your decision not to discuss in the DSEIS, other significant issues and impacts associated with what you call "perceived differences" between existing timber harvest practices and those described in the existing timber management plans, renders the DSEIS deficient and inadequate.

19-3 Based on the above facts and contentions, HEADWATERS believes you have failed "the Bureau's responsibility to insure that all interested parties are involved in the planning process." (BLM Manual 1601, B-2). Further, you have failed to follow or recognize the following guidelines from the BLM Manual or NEPA requirements:

19-4 A. You have failed to identify all of the significant issues and concerns of the affected public. A BLM news release states: "Shera said only the environmental impacts of clearcutting and shelterwood cutting levels will be discussed in the supplementary analyses."

1. How did you determine that only the impacts of clearcutting and shelterwood cutting levels would be discussed?
2. Why was the DSEIS limited to only the impacts of clearcutting and shelterwood leaving out other significant issues and concerns (such as cumulative effects) raised by citizen's groups?

19-5 B. You have failed to assess or determine the . level of significance of the proposed DSEIS. The significance of the media coverage, consequences of the decision, publics affected, legal considerations, and the major concern to national, state and local organizations, requires that, "the scope of public participation should be at the same level as the significance of the resource decisions proposed."

1. Why did BLM hold only one public meeting on the DSEIS 8 days after the document was distributed despite the BLM Manual guidelines which state, "In general, public meetings are not recommended for initial phases of public involvement?"

19-6 C. You have failed to develop a public participation plan that would cover "public participation during all phases" of the DSEIS planning (1601, .7). This section of the BLM Manual recommends that, "all efforts should be made to remove any obstacles to effective public input," and that, "consideration of conflicting public opinions must not be avoided."

1. Why did you or your staff not meet with small groups of concerned citizens for in-depth discussions when they offered to meet with you about the DSEIS?

19-7 D. You have failed to comply with the requirements of NEPA to make a good faith determination on actions that significantly affects the quality of the human environment. BLM now admits they are well on their way into clearcutting acreage 600 percent beyond their present guidelines and that their shelterwood harvest system has failed. BLM has failed to study these and associated problems in-depth and all the resulting significant environmental effects as required by NEPA.

1. Why did you not consider a new or supplemental EIS when the public pointed out your departure from policy covered in the EIS's at least a year ago?
2. Did you consider clearcutting the projected 55,000 acres without informing the public or preparing a Supplemental Impact Statement?

E. HEADWATERS is very concerned that there has been little opportunity for the public to raise questions or get them answered correctly. We refer specifically to the lone public meeting of November 13, 1984, where participants had only five minutes to speak and the BLM panel could not answer all of the direct questions. Therefore, we would appreciate candid answers to all of the enclosed questions and contentions since this is our last opportunity for planned public review and comment.

II. The Proposed DSEIS Violates the Adopted Church Guidelines on Clearcutting and the J and JKFES's (EIS's).

BLM must conduct its timber harvesting activities in compliance with the Church Guidelines on Clearcutting. (C.G.C.) and the EIS's. Both documents are explicit:

A. "Clearcutting should not be used . . . where: Soil, slope or other watershed conditions are fragile and subject to major injury."

19-8 The C.G.C. were interpreted in the EIS's and resulted in: "Approximately 16 percent (26 percent in Josephine) of high intensity lands possess soil, topographic, and climatic conditions suitable for clearcut harvest technique . . . " Nowhere in the DSEIS has BLM shown that the above percentages of land suitable for clearcutting has changed. Yet, BLM is contemplating the actual clearcutting of 55,300 acres and the virtual clearcutting (overstory removal) of an additional 46,000 acres. BLM is now saying that 95 percent of their high intensity lands are suitable for clearcut.

1. Why has BLM not discussed this percentage discrepancy or the remarkable change in lands suitable for clearcut in the DSEIS?

B. "Clearcutting should not be used as a cutting method on Federal Areas where there is no assurance that the area can be adequately restocked within five years after harvest."

19-9 HEADWATERS contends that BLM's reforestations records indicate that they have not been able to establish a stand of trees on a large part of their high intensity lands within the required five year period. This failure to establish regeneration within five years is clearly a violation of the C.G.C. Our contention is reinforced by BLM's admission that they are well on their way (15,600 acres) into destroying, by clearcutting, the present regeneration growing under 41,800 shelterwood acres. This fact alone should be ample proof that BLM has failed to regenerate a large part of their lands in the required five year period.

1. Why has BLM failed to discuss the destruction of such a significant amount of regeneration and the failure of their shelterwood harvest system in the DSEIS?

2. Will the destruction of all this regeneration (41,800 acres) have an affect on the allowable cut?

C. "Clearcutting should not be used where aesthetic values outweigh other considerations."

19-10 BLM's Visual Resource Management guidelines may be suitable for the casual visitor to an area, but these guidelines fail to measure the effects clearcutting will have on people who live within the viewshed of a timber sale, and for whom the daily exposure is not acceptable. For these people, the aesthetic values outweigh many other considerations, indeed for many it is the sole determining factor in where they live.

19-11 HEADWATERS contends that all past clearcutting in the sale areas on the adjacent Forest Service lands, and on adjacent private lands is unacceptable visual resource management. BLM must consider the impacts of the clearcuts made prior to the acceptance of the C.G.C. which are still clearly visible throughout the watersheds. The units proposed for clearcutting, and much of the proposed road construction fail to consider these cumulative visual impacts. By its own admission, BLM is exceeding the VRM contrast rating in many clearcuts. BLM's reliance on this level of clearcut harvest makes a mockery of aesthetic value considerations.

19-12 If trees could be grown quickly in this area, the visual impacts of clearcuts would be of short duration. However, the facts clearly indicate that this is not the case; regeneration is slow, difficult, and sometimes totally unsuccessful. The enlarging panorama of denuded slopes is becoming apparent to residents and tourists alike.

1. Why does BLM not discuss the public's significant concerns over the proposed visual impacts in the DSEIS?

D. "Clearcutting should not be used as a cutting method on Federal Areas where the method is preferred only because it will give the greatest dollar return or the greatest unit output."

19-13 It is obvious that the only way that BLM can make these timber sales attractive to bidders is to offer large clearcut units for sale. This dollar incentive method is the only way BLM can develop these problem sites and fund roadways into presently roadless areas for future harvesting. Other harvesting methods are too costly to produce an economic return from sites with a low capacity to produce timber. This is because other harvesting methods require many more moves and much setting up of expensive yarding equipment, while yielding less board footage of timber per unit. The tractor yarding alternative is also not feasible because of steep slopes and other environmental impacts that would be impossible to mitigate. BLM therefore designs these virtually total clearcut sales to pay for site development and road building. This site development and road building is at the expense of very significant impacts on the environment. The further the BLM moves into these difficult, steep and sensitive watersheds, the more expensive becomes the harvesting, road building, mitigation and reforestation practices. But BLM cannot circumvent or break the law by designing sales that have to get the "greatest dollar return" or "greatest unit output" so they can get to nearly inaccessible stands of timber.

HEADWATERS believes the DSEIS is inadequate in that it does not provide any economic analysis of the proposed action. If not a "greater dollar return" or "greater unit output"; what great revelation came to BLM to cause them to abandon their shelterwood harvest plan and proceed to clearcut virtually every acre immediately after accepting their present EIS's?

E. "Clearcutting should be used only where it is determined to be silviculturally essential to accomplish the relevant forest management objectives . . . the size of the clearcut blocks . . . are kept at the minimum necessary . . . "

19-14 The C.G.C. restrict the use of clearcutting to places "where it is determined to be silviculturally essential to accomplish the relevant forest management objectives." The BLM has not shown in any of their documents concerning timber sales that were available to us that clearcutting is silviculturally essential, nor has BLM shown that the size of clearcut blocks has been kept to a minimum. The BLM has made no determination nor set any standard in the EA's or silvicultural prescriptions to show that clearcutting is silviculturally essential. Some standard must be met or circumstances proven before clearcutting is planned, particularly where the effects of clearcutting are known to have such adverse effects on other resources. BLM has not justified clearcutting within the proposed sale areas on the basis of silvicultural necessity. The size of clearcut blocks, patches or strips are not kept "at the minimum necessary to accomplish silvicultural and other multiple-use forest management objectives." BLM is placing overstory removal (clearcut for visual purposes) units adjacent to clearcut units. This policy increases the size of BLM's clearcut blocks well beyond J, JK-FES and VRM guidelines.

1. Is BLM cognizant of the fact that VRM and EIS guidelines are disregarded on almost every timber sale for the above reason?

F. Shelterwood cuts are in violation of EIS's and C.G.C.

BLM proposes to depart significantly from the provisions of the EIS's on the amount of stand basal area to be left in the regeneration cut of a two-stage shelterwood system. The EIS's studied the impacts of removing no more than 60 percent of the stand basal area, yet the proposed "shelterwood" cuts will remove far in excess of this amount.

19-14 BLM's DSEIS is disregarding the parameters outlined in the EIS's concerning the basal area left in regeneration cuts (shelterwood). The significance of this action makes the harvesting of every timber sale a virtual clearcut in terms of impact on the environment and thereby violating most of the policy guidelines adopted by the Church Subcommittee and BLM. BLM's new district-wide policy of leaving only eight to twelve trees per acre or less and then burning and gross yarding these acres makes all their timber sale harvests resemble clearcuts immediately. In addition to leaving fewer trees per acre than the EIS's designate, BLM is concluding that all of their "high intensity lands" are suitable for clearcut despite the fact that the EIS's state that only 16 and 26 percent of the forest lands are suitable for clearcutting.

BLM is basing their significant change in trees left standing in the overstory mainly on "operational experience" showing damage to planted understory. Successful overstory removal is directly related to care taken by the logger, yarding system used, the size, direction and sliding of felled trees, and many other important factors. HEADWATERS believes BLM's change in harvest methods is directly related to "greatest dollar return" and "greatest unit output" rather than damage to the understory. BLM has not shown any conclusive evidence that the shelterwood system as outlined in the EIS's has failed. Further, BLM has not provided any discussion in the DSEIS as to how much damage to the understory will result using the proposed shelterwood system vs. the older shelterwood system.

We also question how BLM can tell that their two stage shelterwood system has failed when they just started it five years ago and it takes five years before the regeneration is established under the trees to be removed.

G. Multidisciplinary reviews, clearcut blocks and timber sale contracts are inadequate.

19-15 A multidisciplinary review has not always "been made of the potential environmental, biological, aesthetic, engineering and economic impacts on each sale area to be clearcut." This lack of review of important surveys and reports by multidisciplinary team members is typical of BLM timber sales. Further, records of multidisciplinary review are not being kept or are so poorly kept that it is impossible for the public to determine how much of a review is actually being accomplished.

19-16 BLM is failing to keep "clearcut blocks, patches or strips, . . . in all cases, shaped and blended as much as possible with the natural terrain." BLM's clearcuts throughout the District stand out like the proverbial sore thumb.

Timber sale contracts do not contain requirements "to assure that all possible measures are taken to minimize or avoid adverse environmental impacts of timber harvesting." BLM is relying on timber sale administrators to insure that environmental measures are considered rather than placing "all possible measures" in the timber sale contracts.

BLM has failed to consider the above departures from the C.G.C. in the DSEIS.

H. Allowable harvest must be reviewed.

BLM is exceeding their allowable harvest limits by failing to fully implement some of their intensive management practices. BLM has been unable to use herbicides on the District to control competing vegetation or for site preparation as required in the EIS's for the past 2½ years. Further, BLM has failed to accomplish the fertilization, planting and other site preparation and conifer release acres as outlined in the EIS's to maintain their present allowable harvest levels. BLM has exceeded their original allowable harvest (223 MBF) limit every year since the EIS's were accepted. But they have failed to reduce the allowable harvest in proportion to the intensive management practices not accomplished.

19-17 BLM claims that their allowable cut "has been reduced because some intensive management practices outlined in the allowable harvest plan have not been implemented." HEADWATERS does not understand how BLM can reduce their allowable cut on paper and then proceed to cut in excess of that allowable cut each year. The combined intensive management practices are purported to increase the allowable harvest by approximately 50 percent, yet there is no evidence that such an increase can be justified. BLM has not disclosed, as required by NEPA, how these major gains in timber growth and harvest have been calculated or continue to be calculated in the face of reduced or non-use. Further, BLM must reduce their allowable harvest based on the 15,600 acres of regeneration they have destroyed in clearcutting shelterwood units in violation of the EIS's, prior to submitting the DSEIS.

BLM has failed to consider a review of their allowable harvest in the DSEIS despite significant reasons for doing so as outlined above.

The C.G.C. states: "Increases in allowable cut based on intensified management practices such a reforestation, thinning, tree improvement and the like should be made only upon demonstration that such practices justify increased allowable harvests and there is assurance that such practices are satisfactorily funded for continuation to completion."

19-17 1. Why has BLM not disclosed how these major gains in timber growth have been calculated, or continue to be calculated in the face of reduced or non-use?

I. Other deviations from the EIS's and MFP's are not discussed.

BLM is clearcutting lands which the EIS's direct should never be harvested in this fashion. The DSEIS has failed to consider clearcutting on low intensity management land and lands determined by the Operations Inventory as unsuitable. BLM has disregarded the following guidelines:

1. "Clearcutting would be employed only on high intensity lands and then only on areas determined by the operations inventory to be suitable." (JK-FES 1-28)

2. "No final harvest cutting is anticipated on Low Intensity Lands during the proposal period." (JK-FES 1-29)

19-18 3. "Inasmuch as harvest from Low Intensity Lands is a trial program for one decade only, designed to generate specific information, harvest would not take place where resource conflict situations are identified. Adequate non-conflict areas are available to allow this program to proceed as planned during the decade." (JK-FES 1-19 and MFP T-2.1)

4. "Due to harsh site conditions, clearcutting would probably convert such areas to non-commercial forest classification. A two-stage shelterwood system would be employed." (JK-FES pp. 1-24)

Why does BLM continue to clearcut these lands when there is specific direction to do otherwise?

III. BLM has Discarded the C.G.C. in Violation of NEPA.

HEADWATERS contends that BLM has taken the position that all commercial forest land in the Medford district can be clearcut. We offer as proof the foregoing Section II and the following figures from the DSEIS chart on page 4A and estimate sheet provided by BLM.

1. Total clearcut acres - 55,300

2. Final harvest acres - 33,700
(overstory removal)-clearcut
for visual purposes

19-19 3. Regeneration cut acres - 12,300
(receiving final harvest
within the decade)

4. Proposed regeneration cut acres - 5,000
(only 8-12 small trees per
acre-virtually clearcut)

BLM has not disclosed that they are clearcutting all commercial forest land and discarding the adopted C.G.C. in violation of NEPA.

IV. The Josephine and Jackson/Klamath FES's are Deficient and Inadequate and Therefore Unsuitable for Assessing, Typing, or Comparing the Environmental Impacts

19-20 BLM has not considered the fact that the possibility that the ten-year timber management plans, to which they have tied the DSEIS, are deficient and inadequate and no longer suitable as NEPA documents. The EIS's were supposed to provide overall timber management planning for the decade. But we will show in this section how BLM has totally discarded the approved EIS's alternative and many of the EIS's necessary and important guidelines to protect the environment.

A. Deficiencies and unresolved problems of the EIS's.

The November 1, 1979 appeal of the Josephine EIS by HEADWATERS and other groups indicated that at the outset, these EIS's were thought to be inadequate and unlawful. The list of problems has now grown to include the following:

1. Intensive management: The Management Plans assume that a number of intensive management practices will be implemented, including thinning, planting, herbicides and fertilization. Our preliminary investigation shows that the District has fallen short on most of these and that the allowable cut may have to be adjusted.

2. Fertilization: Aside from falling short, the Plans assume that fertilization would result in a 22 percent increase in growth. Our preliminary investigation indicates that 10 percent is much more likely.

19-21 3. Stand density index: The BLM says that high intensity lands in the Josephine Unit average 73 percent and on the J-K average 80 percent of normal stand density index. However, a number of questionable assumptions were made in calculating these figures, biasing the analysis to well-stocked stands.

4. Thinning: The Plans assume precommercial and commercial thinning will increase productivity by 36 percent. This is justified because D-FIT is inapplicable because it assumes stands to be precommercially thinned are suppressed. Thinning thus results in additional height growth. But BLM inventory instructions specify that non-suppressed stands are to be used for site measurements, which means no additional height growth can be expected.

19-22 5. Economics: Our preliminary investigation shows that some timber sales lose money today and that most land will produce a miniscule rate of return when managed for timber in the future. BLM also fails to conduct an environmental cost benefit analysis of their timber sales.

19-23 6. Reforestation: BLM's reforestation records indicate that they have not been able to establish a stand of trees on a large part of their high intensity lands within the required

19-23 five year period. This failture to establish regeneration within five years is clearly a violation of the EIS's and other guidelines. BLM must consider lowering their allowable cut because of these failures and the fact that they have destroyed 15,600 acres of regeneration by clearcutting shelterwood stands since the EIS's were approved.

7. Wildlife: The following specific revisions of the EIS's are needed relating to wildlife:

19-24
- Ecosystem management as discussed in other O&C Districts. (See South Coast Curry Final EIS Appendix K)

19-25
- Revised spotted owl guidelines. 1000 acres minimum old-growth habitat in SOMA's (Spotted Owl Management Areas)
- No planned timber harvest in old-growth management areas or SOMA's for next decade pending research
- No mortality salvage in SOMA's old-growth habitats, TPCC (fragile soil areas) riparian zones or other lands not in the intensive timber base.

19-26
- Riparian zones should be completely withdrawn from timber base.
- Certain old-growth habitats should be withdrawn from timber base for elk thermal cover.

19-27
- Experimental re-growth areas for elk thermal cover should be done over the next 100-200 year period to see how effective this may be. However, this is of little or no use for today's elk herds, only existing old-growth timber can suffice.

19-28
- Manage for the 60 % population level of cavity dwelling wildlife species over the entire forest base.

19-29
- Specifically how do Church Report guidelines affect wildlife habitat management?

19-30
- Implement road closures as mitigation for elk and other wildlife as defined in ORS 498.152
- The BLM should be responsible for funding the cost of gates, law enforcement personnel, etc. for road closure program as mitigation cost. (See South Coast Curry FEIS pp. 3-29)

19-31
- What is the interrelationship between forage seeding for wildlife and sheep grazing and herbicides in light of Alsea Ranger District and Medford District work? How quantitatively does this affect the need for herbicides on Medford District. What specific criteria are used to judge whether forage seeding or herbicides should be used?

19-31
- In the revision above, an answer that site specific EA's will be done is not an adequate answer. BLM must have some criteria for judgement or else they are being arbitrary.

19-32
- Do forage seeding for elk and deer, and maintain some permanent openings of forage in heavily forested areas

19-33
- Protect the nest trees and a significant buffer zone around them for hawks, eagles, owls, and ospreys. Do not conduct timber harvest in the buffer zone. Adjacent to the buffer zone do not allow human activity during the nesting season.

19-34 8. Socioeconomic Conditions: Local revenues from forest timber receipts have continued to drop for the past few years and are having a major impact on Medford District county budgets. About 8,000 lumber and sawmill workers have been laid off in the northwest in the past year resulting in local impacts on the economy and drastic situations for many families. At the same time, tourism in the Medford District area increased from 3 to 30 percent over the past year.

19-35 The EIS's no longer adequately reflect the short and long term effects of the proposed timber harvests. The EIS's expected increases in stumpage prices that did not take place. Also the increased interest of BLM's neighbors relating to timber harvest practices, the declining county revenues, and the surplus of timber that is presently flooding the market are all significant and unaddressed issues.

19-36 9. Failed Shelterwoods: BLM seems to have known even before the EIS's were implemented that the shelterwood harvest system seemed to be failing. Yet without data or public input, thousands of shelterwood acres were ordered by BLM to be clearcut in their timber sales. This alleged failure of tens of thousands of shelterwood acres has never been analyzed in an EIS supplement or allowed to be considered by the public. BLM's arbitrary clearcut management policy of impacts and citizens be damned, is a serious and significant deviation that renders the major portion of the EIS's meaningless.

19-37 10. Cumulative Impacts: BLM's contention that the cumulative impacts of all proposed timber sales are addressed in the EIS's is erroneous. BLM is failing to assess the cumulative impacts of each proposed timber sale based on the above contention, despite the fact that the EIS's are not site specific enough documents.

19-38 11. Environmental Assessments: The EIS's fail to provide complete guidelines for the preparation of Environmental Assessments. Most of BLM's Environmental Assessments are deficient and inadequate as NEPA documents. BLM's failure to consider significantly detailed alternatives which afford a basis for comparison of problems involved with the proposed actions, is just one major shortcoming. (See The Humpy Mountain Timber Sale Appeal-IBLA 84-351 - for additional shortcomings).

B. Discarding of Guidelines

As we stated in the previous section, BLM started to disregard, alter, or discard the EIS's guidelines almost as soon as they were approved. Further, BLM has adopted a policy of reducing the effectiveness of a guideline by a memo process when the public suggests that they should be followed. BLM can disregard all EIS guidelines on one hand and then quote from them when it auita their purposes. BLM has taken an arbitrary position with regard to following the EIS's guidelines. We will now show how deficient and inadequate the DESIS is, based on the following disregarded, altered, or discarded EIS and other guidelines.

19-39 1. Church Guidelines: The BLM, in their JKFES and J/K FES reiterated the BLM general policy of adopting the Church Guidelines on Clearcutting by adopting them again in the following language set out on page 1-3 of the J/K FES:

> "BLM has adopted the policy guidelines for timber management contained in the Senate Subcommittee on Public Lands Report of 1972 entitled 'Clearcutting on Federal Timber Lands.'" (See section II for relevant parts)

The BLM's EIS's gave citizens assurancea that the Church Guidelines on Clearcutting would be followed when BLM inserted in the J/K FES (similar in JFES):

> "Clearcutting of high intensity landa would average 400 acres per year during the proposal period. (ten years)" (pp. 1-29)

and

> "Approximately 4,000 acres (400 acres per year) would be clearcut in the JKSYUa under the proposed action." (pp. 3-21)
>
> "Clearcutting would be employed only on high Intensity lands and then only on areas determined by the Operations Inventory to be suitable." (JK FES 1-28)
>
> "Approximately 16 percent of the high intensity lands (within the Jackson/Klamath Sustained Yield Unit) possess soil, topographic and climatic conditions suitable for clearcut harvest techniques." (Emphasis added) (pp. 1-8)
>
> "Due to harsh site conditions, clearcutting would probably convert such areas to noncommercial forest classification. A two-stage shelterwood system would be employed." (Low Intensity Lands J/K FES 1-24)
>
> "No final harvest cutting is anticipated on Low Intensity Lands during the proposal period." (JK-FES 1-29)
>
> "Inasmuch as harvest from Low Intensity Lands is a trial program for one decade only, designed to generate specific information, harvest would not take place where resource conflict situations are identified. Adequate non-conflict areas are available to allow this program to proceed as planned during the decade." (JK-FES 1-19 and MFP T-2.1)

BLM has broken end discarded all of the above guidelines.

2. Management Framework Plan: The Record of Decision (ROD) signed by the District Manager on April 4, 1980 and by the State Director of BLM on May 13, 1980 adopted the Jackson/Klamath Timber Management Plan. Furthermore, it adopted and implemented the applicable land use decisions contained in the Management Framework Plan (MFP) which provides on T-1.1 Step 3 in relevant part:

> "Decision"
> "SYU Timber Management Environmental Statement. Harvesting will be done within the guidelines listed in the above Multiple Use Recommendation . . . "
> (Multiple Use Recommendation means alternative 3B of the JK FES and Section T-1.1 of the Management Framework Plan).

19-40 BLM has chosen to disregard many of the quidelines in this section of the MFP Specifically, guidelines continue to be broken in Sections T-1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, and 6.2. (Emphasia added).

19-41 3. Shelterwood Harvest: "The Regeneration cut of a shelterwood harvest would remove from 30 to 60 percent of the original stand basal area. Maximum removal on south or west slopes would be 50 percent." (J/K FES 1-28).

BLM has claimed that the percentages placed in the EIS's as an estimated amount of stand basal area to be removed were never intended to be "criteria against which harvest units are analyzed." This rationale virtually makes the EIS's two-stage shelterwood silvicultural system of no value for regeneration. All of the argumenta BLM is making in favor of leaving so few trees on shelterwood sites (i.e. too much ahade, logging considerations, damage to residual trees, etc.) are resulting in a significant change in harvest and regeneration methods. These significant changes indicate that the two-stage shelterwood harvest system described and analyzed in the EIS'a is not being used.

Further, BLM is no longer using stand basal area to determine how much wood should be removed from an area, but rather, 8 to 12 trees per acre as the criteria. Leaving 8 to 12 trees per acre may sound adequate but in practice they are 8 - 12 pole size trees with little or no crown and may easily blow down.

4. Other Guideline Violationa:

a. Planting - "Final harvest would not take place until adequate stocking is achieved." (JK FES 1-35)

19-42 b. Cultural Resources - BLM has changed the Class III Cultural Resources Inventory requirement of the JK-FES into a Class II survey. This change means that a Cultural Resources survey that once took 150 hours can now take only 3 to 6 hours.

19-43 c. Visual Resources - BLM has also made a significant departure from the JK-FES Visual Resource Guidelines (VRM). VRM Class III guidelines may now be exceeded by 50 percent. Other significant deviations occur in VRM for every BLM timber sale because of BLM's over clearcutting and extensive overstory removal harvest methods.

d. BLM's Appeal Regulations (43 CFR Part 500 Subpart 5003) - These new regulations reduce the public's opportunities to protest forest management decisions and are illegal for the following reasons:

1) The time allowed to file protests (15 days after the announced decision to sell) is not adequate to file a Statement of Reasons.

2) BLM's only requirement to publish a notice of decision or notice of sale in a newspaper of general circulation is not adequate public notification.

3) The fact that filing a notice of appeal does not stay the implementation of a decision makes a mockery of the public's "opportunity to protest such decisions."

e. BLM's fee changes and failure to disclose information to the public - BLM has recently changed their fees for acquiring copies of records from BLM. Further, BLM has recently forced members of HEADWATERS to go through the Freedom of Information Act process to acquire timber/sale documents that should be available to the public. BLM's recent actions indicate a fear of the public. The extent to which this fear permeates the BLM can be shown by a recent (October 19, 1984) memo to all District Managers from the BLM State Director. The memo directs BLM employees to "insure that extraneous and inconclusive (e.g. draft) material either does not enter or be removed from the formal case file" for a timber sale. The BLM is concerned that if such information is left in the file, it "may become fair game for release on appeal." BLM is not operating "under the tenet of planning with people rather than for them." Nor do they follow the guideline which states, "All efforts should be made to remove any obstacles to effective public input." (BLM Manual)

V. The DSEIS Violates the O and C Act and the National Environmental Policy Act (NEPA)

19-44 A. O & C Act: The O & C Act states that O & C land "shall be managed . . . for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principal (sic) of sustained yield for the purpose of providing a permanent source of timber supply . . . "

BLM is harvesting Low Intensity Lands and is proposing to harvest Limited Intensity Lands.

There are no provisions in the O & C Act for harvesting timber from lands which cannot be managed for sustained yield, even on an experimental basis. Any harvest from these lands constitutes a major violation of the O & C Act.

19-45 B. NEPA: NEPA requires that the BLM must complete an analysis of the impacts of proposed actions and that this analysis must be reasonably accurate, and portray reasonably anticipated effects. It must also incorporate a consideration of cumulative impacts of the proposal and other similar actions in the same geographic area. The DSEIS is merely a "justification document" for the proposed action. BLM has already cut 15,600 acres in violation of the EIS's and NEPA.

19-46 A critical environmental issue in many timber sales is the risk of mass soils failure, erosion, herbicide use, regeneration failure, fish habitat destruction and other resource degradation. The BLM relies on untested mitigation techniques to control these risks and to support its "finding of no significant impacts." It assumes unjustified and inflated success rates for those techniques. There is, as BLM documents demonstrate, substantial scientific uncertainty as to the effectiveness of many "intensive" forestry management techniques. In such circumstances, CEQ regulations require that the agency must "make it clear . . . information is lacking or that uncertainty exists." 40 CFR 1502.22. Federal Courts have recently applied this requirement to environmental assessments prepared by the BLM and FS herbicide programs: Southern Oregon Citizens Against Toxic Sprays v. Watt, 17 ERC 2133 (D Or. 1982). In so doing, the Court explained the agencies' obligation where uncertainties exist"

> "(T)he agency must either close those (information) gaps or clear up the uncertainties or make a 'worse case analysis' so that the agency can weigh the need to protect against the risk of possible adverse environmental impacts."

The DSEIS fails to discuss, consider, or analyze significant impacts to all elements of the human environment.

> The NEPA imposes duty on an agency to consider all environmental impacts, and not merely those which have adverse effect on quality of environment. Sadler v. 218 Housing Corporation 417 F.Supp. 348 (1976).

Many of the environmental decisions the BLM makes in proposed timber sales are justified based on the MFP, which BLM erroneously calls their Land Use Plan. It must be emphasized that the MFP is not the Land Use Plan Environmental Impact Statement required by the NEPA fifteen years ago. The BLM's continued reliance on the MFP to give credence to their EA's is illegal. The BLM is required to prepare an Environmental Impact Statement for its Land Use Plan.

19-47 BLM has failed to provide any evidence that they have adequately developed or considered alternatives to the proposed action as required by NEPA.

19-48 The fact that BLM is proposing and actually doing clearcutting on LIM lands, shows beyond a doubt that the DSEIS is deficient and inadequate as a NEPA document. A thorough discussion of clearcutting on LIM lands is required in the DSEIS since there is no provision for, or discussion of, clearcutting on LIM lands in the EIS's.

VI. The DSEIS is Deficient, Inadequate and Arbitrary

19-49 BLM has announced, in conjunction with their DSIES proposal, that they have already clearcut 20,631 acres and they are only 4½ years into their 10 year plans. These harvested, clearcut areas are more than double the clearcut acreage set out in the EIS's for the entire 10 year period.

Since January 1983, we have believed that the BLM had exceeded its allotted clearcut acreage for the district and advised BLM of that fact. Since December 1983, we have sought records from BLM to prove that they had exceeded their allotted clearcuts for the District. Since September 1983, BLM has known it had clearcut acres not only in excess of their annual allotment, but that they had clearcut more acres than those allotted for the entire 10 year plans. But it was not until November 5, 1984 that BLM revealed to the public (not in the DSEIS) the records that proved they had exceeded their clearcut acreage allottment.

It is in light of these facts and pressures that BLM is now quite matter-of-factly seeking public comment on a "justification document" to justify actions that have already been accomplished.

BLM is now also seeking to expand their clearcutting action by proposing every available acre in the Medford District for clearcut harvest. We believe this proposal (DSEIS) is deficient, inadequate, and arbitrary for its lack of discussion or consideration of the following significant issues and impacts.

A. Public Input: See Section I.

19-50 B. Air Quality: The proposed increase of only 3.7 percent in the amount of acreage burned within the District is misleading and does not accurately represent the proposed increase in each sustained yield unit. (see comments of Mark Swisher of November 26, 1984). In actuality, you are proposing to increase burning by 10 percent in the JSYU and District-wide you plan to increase the number of burned acres by 96 percent over the first half of the 10 year plan. (See also the enclosed article, "The Questionable Practice of Slash Burning." NCAP News, Fall 1984). In addition, BLM has failed to consider the increase in slash to be burned when clearcut harvest techniques are employed.

19-51 C. Visual Impacts: BLM's conclusion that "the proposed action would result in less impacts on visual resources than those estimated for the existing TMPS," is erroneous and was developed without any consideration of the public's visual concerns. This conclusion is part of BLM's aggressiveplan to bring clearcutting to the people. BLM's "proposed 11 percent reduction in total harvest acreage" is going to concentrate the clearcutting impacts on areas that are already roaded. Many of these existing roadways are within the viewsheds observed by local citizens and tourists and many are adjacent to main travel routes

19-51 throughout the District. BLM's aggressive DSEIS plan is actually clearcutting, for visual purposes, every acre to be harvested (106,300) during the 10 year plan period. The DSEIS violates all the visual guidelines BLM has adopted.

19-52 D. Yarding Systems: BLM states on pg. 4 #D-1. that technological advances in logging system engineering have made reforestation on clearcuts more effective. We wonder why these same advances cannot be used for shelterwood harvest as well. The F.I.R. Project is presently studying overstory removal techniques to prevent excessive damage to seedlings. There are other studies that show 80 percent survival of seedlings when there is a forester in the field showing the logger where and how to remove the overstory. Therefore, the sentence on pg. 5 under the same heading is erroneous when it states, "The successful removal of the remaining overstory has proven to be difficult, if not impossible, without unacceptable damage or destruction to the existing regeneration." BLM seems to be second guessing the F.I.R. studies and other "state of the art" overstory removal techniques for the sake of the less costly clearcut method.

19-53 E. Leaving Existing Shelterwood Stands: BLM has not considered any alternatives to clearcutting the existing shelterwood stands. If BLM proceeds to cc the existing shelterwood acres, the allowable cut gains on overstory removal acres will be put back to year zero by destroying the whole understory. BLM could leave the shelterwood acres for another rotation or commercial thinning or until a technology was developed to remove all or part of the overstory. At any rate, an economic and allowable cut analysis is needed before proceeding with the proposal.

19-54 F. Herbicide Use: BLM has failed to discuss the present situation with regard to herbicide use in the District. BLM is presently in "no-man's-land", with a court injunction preventing herbicide use on one hand, and the EIS's calling for extensive use to maintain the allowable cut on the other. The situation is further complicated by proposing to clearcut so many additional acres without the use of this management tool. BLM needs to discuss alternatives to herbicide use and a plan for site preparation and vegetation management for the remainder of the ten year plans.

19-55 G. Alternatives: As outlined in "E" above, BLM has failed to consider any alternatives to the proposal. The fact that the DSEIS does not correspond to any of the alternatives proposed and discussed in the EIS's, makes the proposal significant and a major change in timber management direction and impacts. The need for alternatives is obvious and a requirement of NEPA.

H. Breach of Trust and Faith: It is obvious throughout this proposal that BLM is doing an after-the-fact cover-up of something they shouldn't have done in the first place. The proposal is full of rhetoric praising the clearcut harvest technique and the lack of impacts which result. The fact is the BLM has written a "justification document" without public input to cover-up a strategy that failed (shelterwood) and a strategy that is doomed for failure (clearcut).

19-56 Another example of leaving the public "in the dark" is on page 3 of the DSEIS. BLM calls the recomputing of the allowable harvest levels a "refinement", but proceeds to raise the allowable harvest levels in the District by 5 million board feet per year. The public has never seen the reasons for this amendment or the computations involved.

I. Water Resources, Soils, Vegetation, Recreation, Animals, and Fish:

BLM has made unsubstantiated assumptions in these sections of the DSEIS. They have asserted in each of these sections that the impacts will be less than, or about the same as, the impacts estimated in the EIS's. We gather BLM has made these assumptions based solely on the fact that they are going to cut fewer acres and build fewer roads. If BLM based their assumptions on specific data as well, it needs to be presented in the DSEIS.

Again, we agree with Mr. Mark Swisher in his comment letter of December 7, 1984 to the BLM. Mr. Swisher states and shows, in a table, that the BLM has not adequately represented the actual impacts of the proposed plan, but that the data BLM presented distorts the true effect of the changes proposed. He believes, as we do, that the BLM has invalidated the descriptive aspects of the EIS's by having discarded important guidelines. We also agree that BLM should file and prepare a DSEIS for each sustained yield unit so that the public can compare the impacts.

19-57 As an example of BLM's inadequate representation of actual impacts and discarding of the descriptive aspects of the EIS's, we will examine BLM's consideration of water yield. On page 9 of the DSEIS, BLM says that the water yield effects would be "minor" and that water yield increases would be "slightly greater."

On pg. 3-37, the J/K FES states:

> "Clearcutting increases water yield, which could have a scouring effect on stream bottoms. Because of the limited acreage proposed for clearcutting, water yield increases could have a local minor adverse impact but a negligible one to the J/K SYU's as a whole . . . the impacts from shelterwood harvest are the same as from clearcutting but on a reduced basis for similar size acreage. However, shelterwood harvest is planned for application on a much greater area and overall water yield is expected to increase more than eight times over that of clearcutting. This would have significant local impacts but minor impacts for the SYU's as a whole." (Emphasis added).

Reading R. Dennis Harr's "Streamflow Changes After Logging 130-Year-Old Douglas Fir in Two Small Watersheds," (Water Resources Research, Vol. 18, No. 3, 1982), shows the average water yield from a clearcut plot to be almost 50 percent more than a shelterwood of similar size.

If the above data is correct, the significance of the local impacts from increased water yield should increase dramatically. The significance may be increased further by the concentration of acres to be clearcut in a watershed with other public agencies or private land owners using the same harvest techniques on adjacent lands.

The water yield effects in reality are not "minor" and the water yield increases are more than "slightly greater" especially on local levels.

19-58 J. Cultural Resources: The BLM has discarded the Class III Cultural Survey designated by the EIS's and has failed to inform the public that they have done so in the DSEIS. A Cultural Resources Survey is now virtually meaningless.

K. Clearcutting Low and Limited Intensity Lands:

19-59 BLM has interjected this issue into the DSEIS without any discussion. The guidelines of the EIS's are clear about no harvesting at all on Limited Intensity Lands and no clearcutting on Low Intensity Lands. As of October 15, 1984, BLM did not even know how many acres of Low Intensity Lands had been cut in the District. This question especially needs discussion because BLM has already violated their Guidelines and have clearcut Low Intensity Lands.

L. Technological Advances: It is incumbant upon BLM to state which "Technologies have been developed or refined through scientific forestry research" and which "state of the art" techniques they are using to "predict and achieve" forest management objectives. It is meaningless to base the destruction of 41,800 acres of existing regeneration on "state of the art" or "refined" scientific research.

19-60 M. DSEIS Into New 10 Year Plans: BLM has not really discussed the real purpose and need for the DSEIS. There are so many unanswered questions that BLM must think in terms of preparing totally new and adequate 10 year plans. The failure of the shelterwood systems, the pressure to harvest as much timber in the most economical and ecologically sound manner, and improved relations between the agencies and the public, are just three questions the proposed DSEIS can't answer. We urge BLM to consider and work with us on a new NEPA document that reflects true "state of the art" forestry in the District.

19-61 N. Major Federal Action: BLM has not disclosed nor discussed the reasons for this major shift in its primary harvesting practice. If the C.G.C., as described in the programmatic EIS's, were once valid, why does BLM now believe those guidelines may be ignored? What information does BLM possess to justify this apparent abandonment of the C.G.C.?

This change in harvesting practices is itself a major federal action significantly affecting the environment. As such it requires an adequate EIS of its own.

O. HEADWATERS Comments: HEADWATERS, Inc. has examined the comments filed by its member groups TELAV (Threatened and Endangered: Little Applegate Valley) and TREE (Thompson Creek Residents For Ecological Education; HEADWATERS, Inc. concurs in those comments, and hereby adopts them as though they were fully set out by HEADWATERS, Inc.

SUBMITTED BY:
Christopher Bratt
Christopher Bratt
for HEADWATERS

The Questionable Practice of Slash Burning

Slash burning is commonly practiced in Pacific Northwest forests to remove wood and brush from clearcut sites in preparation for planting commercial tree seedlings. In this article, a geochemist presents the information that is beginning to emerge regarding chemicals released and formed by slash burning and the hazards these chemicals pose to nearby residents and the environment. Some of these chemicals are formed because wood is being burned; others may be present because the slash and brush have been sprayed with herbicides prior to burning.

A second article on additional environmental effects of and alternatives to clear cut/slash burn practices will appear in the December issue of NCAP NEWS, a special on manual alternatives to vegetation management.

by Roger Hart

"Don't worry, the smoke simply dissipates and all the toxic chemicals degrade to harmless substances." How many times have we been given this reassurance about slash burns? As a professional geochemist, I am trained to trace the life cycle of various chemical substances in geological processes. Members of my profession realize no chemical dissipates, degrades or disappears. For example, in 1982, El Chichon, a volcano in Mexico, erupted. The ash from the eruption did dissipate into the atmosphere, but the ash cut down on the sun's energy reaching earth and dropped the temperature of the earth a fraction of a degree in the last two years. Eventually ash from volcanic eruptions settles to the bottom of the ocean where it is found below sediment layers typical of glacial epochs. Thus, we know particulate matter in the atmosphere affects earth's climate. Eventually over the period of millions of years, ocean sediments are subducted into the earth at colliding plate margins, melted to produce magma, and rise once again to the surface in volcanic eruptions. This is an example of a geochemical cycle that takes millions of years to complete. With the viewpoint of geochemical cycles as background, I reviewed recent studies of slash burn smoke and found it contains potent carcinogens that may be collecting in our estuaries and that burning of herbicide slash can potentially form dangerous compounds of chlorine similar to war gases banned since World War I. In this article, I first discuss the carcinogens produced in any slash burn, then consider the chlorine compounds produced in herbicide-treated slash, and conclude with some observations on possible legal actions that can regulate slash burning.

Roger Hart is a geochemist in the School of Oceanography at Oregon State University. He is stationed at the Marine Science Center in Newport (OR). His specialties are the origin of the atmosphere and ocean ridge hydrothermal systems. Copies of all papers referenced in this article are available through NCAP.

Carcinogens in Slash Buen Smoke

Carcinogenic substances known as polynuclear aromatic hydrocarbons (PNAHs) have been detected in slash burn smoke[1] and the ash and litter left after a slash burn,[2] and are known to increase in shellfish in Yaquina Bay (OR) during periods of high rainfall, perhaps as a result of runoff from slash burn sites[3] (Fig. 1).

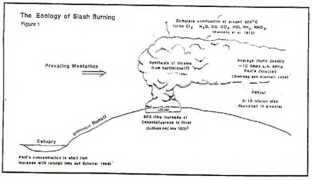

The Ecology of Slash Burning

Figure 1

Complete combustion at around 800°C forms Cl_2 H_2O, CO, CO_2, HCl, NH_3, HNO_3, (Kennedy et al. 1979)
Prevailing Westerlies
Synthesis of dioxins from herbicides(?)
Average plume density ~10 times L.A. smog PAH's detected (Brandley and Cleenell 1984)
Fallout
2-10 micron size deposited in alveolei
Litter
300 time increase of benzo(a)pyrene in litter (Sullivan and Mix 1983)2
Runoff
Estuary
PAH's concentration in shell fish increase with rainfall (Mix and Schaffer 1983)

Scientists believe PNAHs are formed only by the heating of organic substances. This happens in natural fires, human-caused fires, and burial of organic matter deep in the earth by natural geologic processes. PNAHs have been found in a fossil sea lily 150 million years old. How are PNAHs formed and why are they carcinogenic even if the precursor organic matter is not?

PNAHs were discovered in 1865 by Friedrich Kekule. Organic matter normally contains hydrocarbons, long molecules like a centipede in which the body of the centipede is made of carbon atoms and the legs are hydrogen atoms. For example, the hydrocarbon hexane has six carbon atoms in a straight chain with fourteen "legs" of hydrogen atoms. When hexane is heated in the presence of oxygen in air, some of the hydrogen "legs" burn off and combine with the oxygen to form H_2O, leaving an unsatisfied chemical charge on the body of the centipede (Fig. 2). As a result of this charge discrepancy, the body of the centipede curls around and the head attaches to the tail like negative and positive poles of two magnets. The new ring molecule is known as benzene and Kekule first solved the riddle of its structure after having a dream in which dancing snakes bit their own tails.

Benzene is the simpest of the PNAHs, and is known to cause leukemia. The reeson PNAHs cause cancer is simple. The hydrogen "legs" prevent hydrocarbons from entering the DNA molecule. Once some of the "legs" have been scorched off, the probebility that the flat ring molecule of benzene will enter DNA and other organic molecules increases. This destroys normal cell growth (Fig. 2).

While benzene was the first of the PNAHs documented to be carcinogenic, it is not the most dangerous. That distinction belongs to benzo[a]pyrene, a planar grouping of five benzene rings fitting together like six-sided Cheezit crackers. According to Drs. Timothy Sullivan and Michael Mix of Oregon State University, who first documented PNAHs at slash burn sites, "PNAHs were the first chemical compounds shown to be carcinogenic; some are classified among the most potent procarcinogens known."[4] Drs. Mix end Sullivan measured e 300-fold increase in benzo[a]pyrene in the forest litter following a slash burn at the Camp Chilcote site in Benton County (OR) and estimate almost three tons of benzo[a]pyrene and almost fifty tons of total PNAHs are produced every year during slash burning in western Oregon. A 1972 study by the National Academy of Sciences estimated a total of 127 tons/year of benzo[a]pyrene—about one fourth of the total US open combustion production—is from forest and agri cultural fires in the Western US.[4]

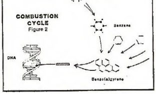

COMBUSTION CYCLE

Figure 2

Where does the benzo[a]pyrene go? Does it simply degrade and disappear? The presence of PNAHs in the 15(million year old sea lily fossil suggests they can be stable ove long periods of time. Significant levels of PNAHs wer detected in smoke collected by high volume air samples a the site of a Boise Cascade burn in Lincoln County (OR) in Ju ly of 1983. The PNAHs are probably absorbed into fine char coal grains. Charcoal in the gas masks used during Worl War I absorbs gases and volatile compounds. Breathing o these charcoal particles with absorbed toxic substances can b hazardous because the finer particles (less than 10 micron are deposited and trapped in the alveoli of the lower lung Significant quantities, resulting in black lung, can be a cumulated by repeated exposure.

Eventually the airborne charcoal particles settle back t earth, the large ones closest to the burn site. Along with no airborne litter, the particles can be washed into the estuari and accumulate in the sediment coating the bottom. As yet, no studies have been made of PNAHs in estuary sed ments. However, in 1983 Drs. Michael Mix and Rand Schaffer of Oregon State University reported the results of PNAH study of Yaquina Bay mussels.[5] They found dramatic increase of PNAH levels during the rainy seaso leading Dr. Timothy Sullivan to speculate, "a significa potential source of PNAH within these wetersheds, ar throughout western Oregon, is slash burning, the burning residual materials that remain aftar logging operations."[6]

Burning Herbicide-Treated Slash

Most clearcuts are spreyed with herbicides prior to bur ing. This kills and dries out grasses, shrubs, and bushes a enhances the likelihood of e successful burn. Harbicides su as 2,4-D, piclorem, Garlon (triclopyr), dichloroprop, a dicamba ere applied to salmonberry, red alder and salal bud break in the spring. The burning season begins in ea July after slash and forest litter have sufficiently dried. In dition, a general toxicant such as Dinoseb is often applie few days prior to burning. Dinoseb, a nitrophenolic co pound, rapidly kills foliage (es well as insects and fungi) a desiccates the clearcut.

In September 1981, 0.7 acres of slash on a Bonnev Power Administration right-of-way were sprayed with 2,4 and burned. Several fire fighters exposed to the smoke s fered respiratory illness after the burn. Incidents such as t raise the question: does burning of herbicides produce to substances?

Experimental burning of herbicides and othar chlorina hydrocarbons in the laboratory has produced diox chlorine gas,[7] cyanide,[8] and phosgene.[9] What are the sy toms of exposure to these substances and are they likely occur in toxic concentrations during slash burning? In or to answer these questions let's quickly review sc chemistry of herbicides. The nucleus of most herbi molecules is similar to the benzene ring of polynuc aromatic hydrocarbons; in addition, however, herbici commonly have legs of chlorine atoms radiating from nucleus like the legs of a crab. The number of chlorine at is different for each herbicide. For example, 2,4-D (2,4

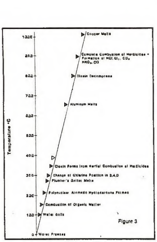


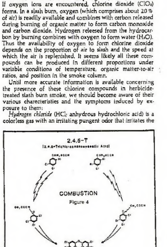
Figure 3

chlorophenoxyacetic acid) has two chlorine etoms and picloram (4-amino-3,5,6-trichloropicolinic acid) has three chlorine atoms. In addition, most herbicides have an acid molecule "tail" connected to the benzene ring by an oxygen molecule. 2,4,5-T and 2,4-D both have acetic acid molecules attached to the benzene. It is this "tail" jutting out like the tail scaffolding on the starship Enterprise that cuts down on the probability of the herbicide molecule entering the DNA molecule. Numerous laboratory experiments have shown that burning herbicides cleaves off the acid molecules as well as the chlorine atoms at much lower temperatures than that required for total degradation of the herbicide (Fig. 3). The cleaving of the acetic acid radical from 2,4,5-T leaves a negative charge balance that is compensated by the combination of two molecules to form TCDD, a toxic variety of dioxin (2,3,7,8-tetrachlorodibenzo-*p*-dioxin; Fig. 4). In a laboratory experiment conducted at the analyticel laboratories of Dow Chemical at Midland, Michigan, Drs. R.H. Stehl and L.L. Lamparski found, "Undar these experimental conditions [temperature 350-800°C] we observed a small amount of TCDD was produced in addition to that present as a trace contaminant in the 2,4,5-trichlorophenoxy species."[9] TCDD levels in the soil surrounding the Dow Midland Michigan Laboratory are five times higher than the highest concentration measured anywhare else. Other types of herbicides will form other, presumably less toxic, dioxins. For example, 2, 4-D probably converts to 2,7 dichloro-*p*-dibenzo dioxin. No attempts have yet been made to measure dioxin concentrations at slash burn sites. At about the same temperature as that of dioxin formation, chlorine atoms are cleaved off during burning of herbicides. 2,4-D converts to ortho- and para-monochlorophenoxyacetic acids with the loss of one chlorine etom in the temperature range 210-300°C.[10] At temperatures above 800°C, considerable chlorine gas has been measured. No attempt has been made to analyze the form or concentration the chlorine atom takes as it cleaves off from herbicides during slash burning. Experiments conducted by Russian and Jepanese scientists show burning of polyvinyl chloride (PVC), another chlorinated hydrocarbon, releases chlorine in the form of hydrochloric[8] acid and phosgene,[9] a war gas that causes respiratory illness.

The formation of hydrochloric acid and phosgene during burning of PVC suggests they can also be formed during burning of herbicides. The actual chlorine compounds produced during slash burning depends on the type and availability of free ions (charged atoms and molecules) with which the chlorine ion can react. If the released chlorine ions encounter other chlorine ions most frequently, then chlorine gas (Cl_2) is produced. If the chlorine encounters free hydrogen ions most frequently, hydrochloric acid (HCl) will form. If carbon monoxide ions are encountared, phosgene ($COCl_2$) is formed. If oxygen ions are encountered, chlorine dioxide (ClO_2) forms. In a slash burn, oxygen (which comprises about 20% of air) is readily available and combines with cerbon released during burning of organic matter to form carbon monoxide and carbon dioxide. Hydrogen releesed from the hydrocarbon by burning combines with oxygen to form water (H_2O). Thus the availability of oxygen to form chlorine dioxide depends on the proportion of air to slash and the speed at which the air is replenished. It seems likely all these compounds can be produced in different proportions under variable conditions of temperature, organic matter-to-air ratios, and position in the smoke column.

Until more accurate information is available concerning the presence of these chlorine compounds in herbicide-treated slash burn smoke, we should become aware of their various charecteristies and the symptoms induced by exposure to them:

Hydrogen chloride (HCl; anhydrous hydrochloric acid) is a colorless gas with an irritating pungent odor that irritates the eyes, mucous membranes and skin. Exposure of rabbits and guinea pigs to 4290 parts per million (ppm) hydrogen chloride for thirty minutes has caused death from pulmonary edema (swelling of lung tissue); exposure to 300 ppm for six hours caused corneal and upper respiratory irritation.[11] In humans, exposure immediately results in a cough, burning of the throat, and choking. Exposure to 50-100 ppm is barely tolerable for one hour and extreme exposure can cause pulmonary edema in humans. The Occupational Safety and Health Administration (OSHA) has set a standard ceiling for exposure to hydrogen chloride at 5 ppm.


2,4,5-T

(2,4,5-Trichlorophenoxyacetic Acid)

COMBUSTION

Figure 4

TCDD (DIOXIN)

(2,3,7,8-Tetrachlorodibenzo-p-Dioxin)

Chlorine (Cl_2) is a poisonous greenish-yellow gas with a characteristic irritating odor. Nasal irritation, coughing, ch ing and chest pain occurs at about 0.5 ppm. These sympt are frequently accompanied by nausea, headache, and di ness. Chronic exposure may increase susceptibility respiratory infections. At higher concentrations pulmon edema, pneumonia and death may result. The current OS standard for chlorine is a ceiling level of 1 ppm averaged o a fifteen minute period.[11]

Phosgene ($COCl_2$) is a colorless gas with a sweet odor hay at low concentrations and a sharp pungent odor at concentrations. The gas at concentrations of 1-2 ppm ca eye irritation, at 5 ppm, cough with discomfort in the c and irritation of the nose and throat. At concentrations o ppm phosgene is rapidly fatal as a result of pulmonary ed characterized by frothy sputum. The current OSHA stan for phosgene is .1 ppm averaged over eight hours.[11]

Chlorine Dioxide (ClO_2) is a yellow-green to orange with a pungent sharp odor. The symptoms for chlorine ide are similar to those for phosgene with respiratory i tion followed by pulmonary edema. Exposure to 19 pp an unspecified time has resulted in fatality. Rats repea exposed to 10 ppm died after ten days of exposure. Repe exposure may cause chronic bronchitis. The OSHA stan is the same as that for phosgene, .1 ppm averaged ove eight hour period.[11]

Two significant generalizations are derived from observations. First of all, possible chlorine compound leased by thermal degradation of herbicides all respiratory problems ranging from coughing to chronic chitis, to pulmonary edema and pneumonia. Secondly gaseous chlorine compounds are toxic at concentratio much as 800 times lower than the herbicide from which are derived. For example, the concentration for loss by of fifty percent of laboratory animals for picloram is ppm. Potentially, 84% of the picloram could be conver chlorine dioxide, which is lethal to rats at 10

Concentrations of Chemicals in Slash Burn Smok

What is the likely concentration of chlorine compou slash burn smoke? An accurate estimate cannot be without actual measurements. Rough calculations pres below suggest the chlorine compounds produced by th degradation of herbicides during slash burning should neglected. The concentration of released chlorine comp in slash depends on the nature and amount of herbici temperature of the burn, and the amount of air into the chlorine compounds are released. The chlorinate bicides 2,4,-D, 2,4-DP, atrazine, picloram, Silvex, dic triclopyr, dalapon and pronamide contain from 32 to 4 cent chlorine by weight. Recommended herbicide appl rates for conifer release vary from 1 to 15 lbs/acre (6,825 gm/acre). Higher concentrations are known to d conifers or reduce growth rate, especially if applied aft break. There is no established upper limit for rate bicide application prior to slash burning for dessicatio poses. In addition to the rate of application, the deg which it persists between time of application and th burn must be considered. Atrazine, diacamba, pron and triclopyr are known to persist for at least one Picloram exists for more than a year and a half. In the the short term herbicides such as 2,4-D and dichlor consideration must be given to the nature of the degr products. Degradation is believed to take place by

The Individual & Slash Burning

Concern over slash burn smoke has been voiced by Oregon coastal residents for years because, as Newport (OR) resident Susan Parker notes, "Slash burning is allowed only when wind conditions will keep smoke out of the Willamette Valley, which is to say that slash burning is only allowed when the smoke will fall on coastal residents. When the smoke stays in your valley for three to six days, and then everyone, literally *everyone* exposed to the smoke gets sore throats, lung inflammation and congestion, and total body aches, you *have* to feel like you're being poisoned. Many residents believe that breathing the smoke is direct exposure, like right into the lungs and into the blood stream. The numbers of pneumonias reported in hospitals have seemed to increase every winter for the past three years, but someone has yet to really look into the problem."

As a member of the Coastal Coalition for Alternatives to Pesticides (CCAP), an NCAP member group concerned with the loss of fish end wildlife, the health effects, and the air pollution resulting from management practices on the forest lands surrounding them, Susan notes that, "We've questioned for years what chemicals are produced when sprayed slash is burned, but no one was looking. The EPA told me that they contracted in 1975 with Logan Norris of the Pacific Northwest Research Station to look for dioxin in smoke from slash burns, but we were the first people to take samples in 1983."

With a high volume air sampler and the help of scientists, CCAP itself began testing for the total particulates and certain chemicals in slash burn smoke. The air sampler takes in air at 50 cubic feet per second and collects the air's perticulates and chemicals on filtar paper. These chemicals can later be identified and quantified in a laboratory. Arrangements can be made by othar citizen groups to use CCAP's air sampler, although one of the CCAP members, trained to use the sampler correctly, would need to introduce its use to the group.

CCAP will be continuing its efforts to get slash burn smoke analyzed, to compare the chemicals in smoke from sprayed and non-sprayed slash, and to provide public education about slash burning and alternative forestry practices. For more information, contact Susan Parker; 825 NE Grant; Newport OR 97365; (503) 265-9648.

—*M. O'Brien*

activity. Are the herbicides absorbed into the cells of woody plants and microbes without significant chemical change? If so, herbicide concentration may build up in organic matter with repeated application. Of particular interest is the fate of the chlorine in the degradation processes. Does it remain bonded to a partially degraded benzene hydrocarbon or is it released as ClO_2 and absorbed in the forest litter? At the 70th annual meeting of the Air Pollution Control Association in Toronto, Drs. R.A. Karnes, D.S. Duvall and W.A. Rubey, who conducted herbicide thermal degradation experiments concluded, "Decomposition products should remain a concern in all thermal degradation studies of any compound such as those investigated."[12] Does the same warning apply to microbial degradation? Does the chlorine simply disappear?

For the purposes of making a demonstrated calculation, I will assume 5 lbs/acre of herbicide is present at the time of burning. This roughly corresponds to 1,000 gm/acre of chlorine. The net concentration in air depends on how fast the herbicide is degraded and the chlorine is released. Herbicides are more volatile than wood and litter. For this reason they will be burned and emitted in the early stages of the burn. It is possible to consider two extremes. In the worst case, all the chlorine is quickly released into a column of air one meter high. This corresponds to 4,000 cubic meters or 5.36 million gms of air. The concentrations of gas in this case are 187 ppm for chlorine, 192 for hydrogen chloride, 283 ppm for phosgene and 358 ppm for chlorine dioxide. While the worst case is highly unlikely, the concentrations are alarmingly high: 187 times the OSHA standard for chlorine, 2,830 times for phosgene and 3,580 times for chlorine dioxide. The phosgene concentration is 6 times that known to cause fatalities and the chlorine dioxide concentration 18 times the concentration that can cause fatality. These extreme concentrations could occur only under bizarre conditions of herbicide build-up in plant and microbe cells or blatant disregard of recommended rates of application.

Now consider the other extreme. If the assumption is made that the chlorine is released at the same rate as wood is burned, it is possible to estimate the total volume of air the chlorine is released into by calculating the amount of particulate matter required to obscure vision. This assumption allows an estimation of *minimum* concentrations because the chlorine is volatilized much faster than the particulates are released from thick logs and litter. Dr. Frank Dost of the Department of Agriculture Chemistry at Oregon State University, in a report written for the Bonneville Power Administration, estimates a visibility of 100 meters in smoke corresponds to a particulate density of 5 mg/m^3. He suggests 6,955,000 mg of particulates are released per acre of slash burned and that to reduce visibility to 100 m, the particulates must be released into 1,391,000 m^3 of air.[13] If chlorine is released into the same amount of air from 1000 gm/acre, then the concentrations are: .54 ppm for chlorine, .55 ppm for hydrogen chloride, .81 for phosgene and 1.02 ppm for chlorine dioxide. The concentrations of phosgene and chlorine dioxide are still 8 and 10 times, respectively, the OSHA standard. These calculations suggest the respiratory problems suffered by the BPA firefighters could have been from exposure to chlorine compounds produced during burning of herbicides. It also seems likely that residents of the Coast and Cascade ranges of Oregon may suffer from chronic bronchitis, pulmonary edema, and pneumonia after exposure to slash burn smoke.

Litigation

Litigation against slash burning has been attempted on the grounds of encroachment on private property. To date, the courts regard slash burn smoke as non-hazardous despite published evidence to the contrary. In the case of *Parker, et al. v. Boise Cascade* heard last January in Oregon Federal district court, Judge Owen Panner ruled that the burden of proof that slash burn smoke is hazardous is on the plaintiffs in each specific instance of infraction.[14] Thus, private individuals pursuing litigation are forced to support the costs of sampling and analyzing slash burn smoke and presenting the evidence in a fashion that is credible in court. This includes documentation of wind direction to avoid "Act of God" arguments on the part of defendants. The complete evidence in a successful court case would require documentation of: total particulate density, quantitative analysis of benzo[a]pyrene and other carcinogenic PNAHs, the presence of chlorine substances such as chlorine dioxide which is noticeable because of its orange color, the possibility of relict and degraded herbicides as well as dioxin, and 24 hr data on wind velocity and direction.

Summary

Slash burning forms carcinogenic polynuclear aromatic hydrocarbons (PNAHs) which are apparently released into the atmosphere via smoke and into aquatic networks via runoff. Dioxins and other chlorinated compounds may be similarly released if the slash has been treated with chlorinated herbicides. The known effects of these compounds on human respiratory systems warrant concern for citizens subjected to the smoke from slash burning incidents. Litigation based on careful analysis of slash burn smoke may prove helpful in spurring consideration of alternatives to slash burning.

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20

Michele Grady
PO 113
Williams, ore. 97544
Dec. '84

To my friends:

I feel that clear cutting the forest is an act of selfishness on the behalf of man's need for making money. The earth feels the harshness of it, the traumatic sense of loss, of extreme violence.

Trees are the earth mothers' offerings to us who live here; and man has come to act in insensitivity - to take all without a question, without even reasoning.

... Clear cut logging is devastating the beautiful mountain sides of California, Oregon & Washington. One simple, logical alternative is to selectively cut the older growth trees, thinning out some so that others may grow with more sunshine ☼ and more room to expand to reach the fullest growth potential.

I plead with you - don't do away with our resources all at once. Take a look into the future.

My prayer for the protection of the earth is a prayer for all beings.

Listen; hear my prayer!!
I'd like to hear a responce from you.

Sincerely,
Michele Grady
Michele Grady

1415161718192021222324 DEC 1984 RECEIVED

ROUGH & READY
LUMBER CO.

30365 Redwood Hwy.
PO Box 519
Cave Junction, OR 97523
(503) 592-3116

21

Al Larson
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97504

Subject: Josephine/Jackson-Klamath Timber Management Supplemental Environmental Impact Statement (SEIS)

Dear Mr. Larson:

The Medford District Supplemental Environmental Impact Statement (SEIS) documents a mid-course change in the present 10 year forest management plan. This change deals mostly with a proposed increase in clear cutting and comes about because the District wished to take advantage of the latest silvicultural techniques. Techniques developed through research and the use of healthy growing stock furnished by the Medford Forest Nursery.

We agree with this mid-course change in the timber management plan and believe the SEIS clearly explains and demonstrates the need for this change.

We would only offer two suggestions:

21-1 First, many of the silviculture techniques you are using were developed under the 10 year Forest Intensified Research Program (FIR). Therefore to document this research for your SEIS we would suggest you include the Bibliography titled, "Publications and Thesis from the FIR Program" compiled by J.D. Walstad, FIR Program Leader, Forestry Science Laboratory, 3200 Jefferson Way, Corvallis, OR 97331, November 9th, 1984.

21-2 Second we believe it would be appropriate to consider economics in your SEIS. For example; what savings are there in logging cost, in less miles of road building, vegetation management on less acres, are there any increased costs, and what will be the effect on the counties share of O & C funds?

We believe that the BLM by developing this SEIS demonstrates its responsibility and we thank you for the opportunity to comment.

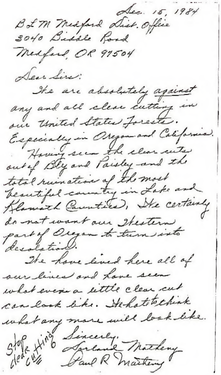
Sincerely,

Lewis Krauss

Lewis Krauss
Rough & Ready Lumber Company

LK/sd

22



Dec. 15, 1984

BLM Medford Dist. Office
3040 Biddle Road
Medford, OR 97504

Dear Sirs:

We are absolutely against any and all clear cutting in our United States Forests. Especially in Oregon and California.

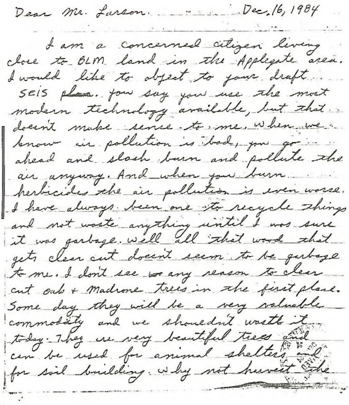
Having seen the clear cuts out of Bly and Paisley and the total ruination of the most beautiful country in Lake and Klamath Counties, We certainly do not want our Western part of Oregon to turn into desolation.

We have lived here all of our lives and have seen what even a little clear cut can look like. We hate to think what any more will look like.

Sincerely,
Dorland Matheny
Paul R Matheny

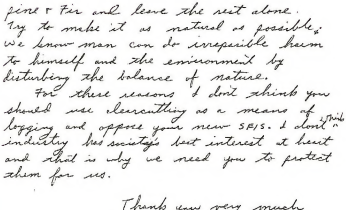
Stop clear cutting!!

23



Dear Mr. Larson. Dec. 16, 1984

I am a concerned citizen living close to BLM land in the Applegate area. I would like to object to your draft SEIS ~~plan~~. You say you use the most modern technology available, but that 23-1 doesn't make sense to me. When we know air pollution is bad, you go ahead and slash burn and pollute the air anyway. And when you burn herbicides the air pollution is even worse. I have always been one to recycle things and not waste anything until I was sure it was garbage. Well all that wood that gets clear cut doesn't seem to be garbage to me. I don't see ~~w~~ any reason to clear cut oak + Madrone trees in the first place. Some day they will be a very valuable commodity and we shouldn't waste it today. They are very beautiful trees and can be used for animal shelters and for soil building. Why not harvest the

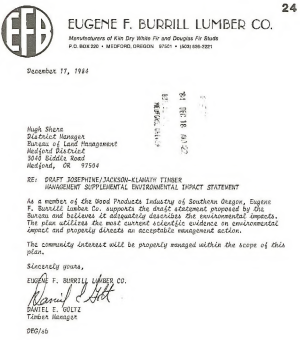


pine + Fir and leave the rest alone. Try to make it as natural as possible. We know man can do irreparible harm to himself and the environment by disturbing the balance of nature.

For these reasons I dont think you should use clearcutting as a means of logging and oppose your new SEIS. I dont think this industry has society's best interest at heart and that is why we need you to protect them for us.

Thank you very much
Mel Canal
4077 Humbug crk. Rd.
Applegate, OR. 97530

24



EUGENE F. BURRILL LUMBER CO.
Manufacturers of Kiln Dry White Fir and Douglas Fir Studs
P.O. BOX 220 • MEDFORD, OREGON 97501 • (503) 826-2221

December 17, 1984

'84 DEC 18 AM 10:22
MEDFORD, OREGON

Hugh Shera
District Manager
Bureau of Land Management
Medford District
3040 Biddle Road
Medford, OR 97504

RE: DRAFT JOSEPHINE/JACKSON-KLAMATH TIMBER MANAGEMENT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

As a member of the Wood Products Industry of Southern Oregon, Eugene F. Burrill Lumber Co. supports the draft statement proposed by the Bureau and believes it adequately describes the environmental impacts. The plan utilizes the most current scientfic evidence on environmental impact and properly directs an acceptable management action.

The community interest will be properly managed within the scope of this plan.

Sincerely yours,

EUGENE F. BURRILL LUMBER CO.

Daniel E Goltz

DANIEL E. GOLTZ
Timber Manager

DEG/sb

DEC 1984
RECEIVED
BUREAU OF LAND MGT.
MEDFORD

25

Illinois Valley Soil and Water Conservation District
Cave Junction, Oregon 97523 Phone (503) 592 3731

December 17, 1984

Al Larson
Planning & Environmental Coordinator
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97504

Subject: Supplemental Environmental Impact Statement (SEIS) Medford District Timber Management Plan

Dear Mr. Larson;

The Board of Directors of the Illinois Valley Soil & Water Conservation District has reviewed the Supplemental Environmental Impact Statement (SEIS) for the Medford BLM District Forest Management Plan; we find it to be well written and self-explanatory.

25-1 Part of our function as a Soil Conservation District is to monitor and prevent non-point pollution (208 Program). In our district, road building and logging would be a primary source of such pollution. We, therefore, support any plan (SEIS - page 9) that reduces erosion and sediment.

We are also aware of the ten-year Forest Intensified Research Program (FIR) for southwestern Oregon and we feel you might cite some of the reports from this research to back up your SEIS.

25-2 Economics might also be considered in your statement. Questions which might be asked are: Will the net cost of the proposed action be more or less, and how will it effect county revenues?

Thank you for giving our district the opportunity to comment on this update of the Medford BLM Timber Management Plan.

Sincerely,

I.V. SWCD Director

EE/jw

cc: Chuck Liles, DSWC Administrator
Roy Manning, District Conservationist (SCS)
Lew Krauss, SWCD Director

CONSERVATION DEVELOPMENT SELF GOVERNMENT

26

3999 Cedar Flat Road,
Williams, Ore. 97544.
17 Dec. 1984.

Mr. Hugh Shera,
BLM District Mgr.,
Medford, Ore.

Dear Mr. Shera:

I am writing this as a concerned citizen and not as a member of any group. This is in regard to clearcutting in the Williams area.

26-1 I have been opposed to clear cutting for a very long time but after taking the tour conducted by Bill Bradley last spring and talking with the BLM officials I was almost convinced that clear cutting is possibly the best way to manage the forest, and it may very well be in some areas. However I am opposed to any more clear cutting in the Williams area, particularily those areas visible from the valley and close to where people live.

I live right at the foot of the mountain on Cedar Flat Road and while we do not see the clear cut areas from our house they are right up behind us. We have lived here for 12 years and have owned property here for 21 years and we retired here to enjoy this beautiful country. We used to enjoy the beautiful drive up the hill and always took friends and relatives up to see the beautiful scenery and enjoy the view. Now we take them up the hill to see how it has been devestated. Now I can hardly get my wife to take that drive.

26-2 I understand that much of it needs to be harvested and I know that when the trees reach a certain point they only begin to deteriorate and then our resource is lost. I also know the affect that the timber harvest has on our economy. However I feel that there is too much being harvested in this area at this time and it seems to me at the rate it is being cut that these hill will be denuded perhaps even in my lifetime.

In closing I ask that there be no more clear cutting in this area as stated above and I would ask that the total area being harvested be limited as much as possible and still keep our forests productive.

Yours truly,

Harold L. Pedrick
Harold L. Pedrick.

27

WF IA
WESTERN FOREST INDUSTRIES ASSOCIATION
1500 S. W. TAYLOR STREET • PORTLAND, OREGON 97205
TELEPHONE
503-224-5455

December 14, 1984

Mr. Al Larson
Planning and Environmental Coordinator
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97504

Re: Josephine/Jackson-Klamath Timber Management Supplemental Environmental Impact Statement

Dear Mr. Larson:

Western Forest Industries Association (WFIA) is a trade association comprised of approximately 100 manufacturers of lumber and plywood located throughout the Pacific Northwest. Our members are primarily small, independently-owned firms that rely almost exclusively on federal forest lands for a source of raw material. Since the Bureau of Land Management is a substantial supplier of timber in southern Oregon, the Association and its members are very interested in the management plans for the Medford District.

WFIA supports the decision to emphasize clearcutting on the Medford District when appropriate and believes the supplemental draft EIS adequately displays the alternatives and costs of the decision. We were very concerned with the emphasis placed on partial cut silvicultural prescriptions in the original plan as there clearly was a lack of economic and environmental justification for that decision. The research findings of the FIR Project, local experience on other ownerships and economic analysis has demonstrated that clearcutting is appropriate as the principal silvicultural treatment on the district. A strong argument can also be made for clearcutting from an environmental standpoint in that less road construction is necessary to manage the land and fewer entries over the rotation are necessary.

While the proposed decision can be easily explained and justified, it is imperative that the legal requirements of NEPA and the CEQ Guidelines

Mr. Al Larson
December 14, 1984
Page Two

be strictly observed. WFIA urges that you have the draft supplemental EIS thoroughly reviewed by your legal counsel to check for compliance with all of the requirements imposed upon you by both NEPA and CEQ and that any deficiencies identified be corrected prior to publication of the Final Supplemental EIS.

Sincerely,

Jim Geisinger
Jim Geisinger, Forester

cc: Mr. William Leavell

28

December 10, 1984

Mr. Hugh Shera
District Manager BLM Medford
3040 Biddle Road
Medford, Or. 97501

Dear Sir,

I am writting concerning the proposed change in cutting policy for the
28-1 ten year period 79-89. The change will be 55,000 acres clear cut instead of
the origional 9,000 plus 20,000 shelter wood. I have heard and understand
the reasons of economics, cost-effectiveness and future timber crops given
by BLM for these changes. To those of us who believe in a more creative
28-2 and healthy aproach to forest management this change is totally one sided
and unacceptable. Any idea of environmental, visual asthetic, or watershed
28-3 protection has been thrown to the wind and the once sensible thought of
sustained yield has little meaning other than being a reason why its OK to
cut it all down. You claim yield will be maintained by what you will do with
28-4 chemicals and fertilizers that you will have to dump around our whole valley
if all our older woods are to be clear cut. If the BLM cannot hear us in good
faith and common good that the O&C act and Church guidelines imply then they
will have to hear us in court.

28-5 In a positive tone I would like to propose some aproaches to the management of Williams valley that could be applied on a broader scope.

The already existing inner valley forest (such as the O&C tract in section 33) should be left as is to be developed as healthy wilderness and water protection resource by a town committe and BLM office working together. I understand that some of what we still see is already sold for logging. We want to be able to save a healthy portion of what is left. A guideline that says no clearcutting within three or even five miles of down town Williams, depending on how visable a cut will be is of interest to many in the community.

28-6 The protection of intermitant water sheds is also of concern to many throughout the valley. The identifying and protection of these resource areas should be done in conjunction with local citizens. Recreation and irrigation both depend on wisdom in this area.

28-7 Basically I feel that if you are going to blatantly clear cut all of your sales than you should as blatantly perserve and protect as uncut diverse"forest" a real portion of the woods around our homes and water sources. A further example;county wide you should leave as much 20-50 % of your remaining forests whole and untouched if you are going to clear cut all the rest.

A program should be developed now to convert failing mills to the processing of annual crops for the making of papers, ropes, fabrics, and building materials. This would start to secure jobs in the future for the industrial workers in our state. Herbs, oils, scents, and spices can also be produced in our forests and processed in our industrial centers. Thank you.

Sincerely,
Alan Venet
Alan Venet 1130 Tetherow Rd.
Williams, Or. 97544

— in Strong agreement !!
- Ed + Sam Smith
PO Box 116
Williams, OR
97544

29

December 15, 1984

Mr. Hugh R. Shera
District Manager
Bureau of Land Management
Medford District Office
3040 Biddle Road
Medford, Oregon 97504

Dear Mr. Shera:

29-1 This is written in connection with the draft supplement to your district's timber EIS, as it relates to air pollution caused by slash burning.

About a year ago I was a guest at a dinner meeting of the local chapter of the national organization of people in your profession, most of those present being local employees of either BLM or the Forest Service. The subject of this meeting was slash burning, and how its toxic and irritating smoke was carried long distances, often into already-polluted urban areas.

Now I learn that you plan to increase the already unacceptable volume of slash burning, instead of searching for a method of reduction or elimination.

I believe you know that carcinogenic substances (PNAH's) exist in this smoke. Moreover, dirty air, in general, is injurious to our lungs.

In addition, where one human out of three in our population suffers from some sort of lung impairment, it becomes quite evident that any activity which stands further to deteriorate local and global air quality must not take place.

The total of environmental threats are of such magnitude that we can no longer ignore them or compromise in the name of trade-offs.

29-2 Perhaps slash can be ground up and returned to the earth as compost. Whatever the method, this problem must be dealt with and solved. Its scope goes far beyond purely local concern regarding the need and the right for clean air.

Sincerely,
Gordon Farnsworth
Gordon Farnsworth

cc Mike Walker
Team Leader

30

SOUTHERN OREGON TIMBER INDUSTRIES ASSOCIATION
2680 NORTH PACIFIC HIGHWAY • MEDFORD, OREGON 97501 • PHONE (503) 773-5329

December 14, 1984

Hugh Shera
District Manager
BLM-Medford District
3040 Biddle Road
Medford, OR 97504

Dear Hugh:

On behalf of the Southern Oregon Timber Industries Association, I have reviewed the Draft Josephine/Jackson-Klamath Timber Management Supplemental Environmental Impact Statement, and would like to offer comments on the adequacy of the Draft Supplement.

But first, I would like to commend the BLM for acting in a responsible and professional manner to address public concerns regarding the management of O & C and public domain lands. Local community interests have been served by the open discussion of the pros and cons of the clearcut versus shelterwood harvesting issue. I would also like to commend the BLM for actively and aggressively incorporating FIR and OSU research results into on-the-ground management practices.

My specific comments on the draft are as follows.

1. Legal Adequacy of the Draft Supplement

By electing to publish a supplemental environmental impact statement, the BLM is charting a new course through the sometimes treacherous waters of the National Environmental Policy Act (NEPA) and Council on Environmental Quality (CEQ) regulations. As both the USFS and BLM have experienced in recent years, compliance with the complex procedural requirements of the regulations, has become a major stumbling block to wise resource management.

Unfortunately, the risks of writing an untried type of environmental disclosure statement, are high. It would be very detrimental to the Southern Oregon forest resource and community if a lawsuit was able to force the return of shelterwood harvesting because the BLM failed to comply with the appropriate procedural requirements of the CEQ regulations.

Serving Forest Related Industries and Community Interest in Southern Oregon

Hugh Shera
December 14, 1984
Page 2

SOTIA recommends that the BLM, prior to publication of the final supplemental environmental impact statement and record of decision, take any action needed to minimize the risks of a lawsuit.

2. Environmental Adequacy of the Draft Supplement

30-1 The Draft Supplement clearly discloses the environmental impacts of the proposed action. However, the economic and social impacts have not been disclosed. Although NEPA only requires the disclosure of biological and physical impacts on the environment, regular environmental impact statements and management plans do include an analysis of the economic and social impacts.

The economic and social impacts of the proposed action, like most of the environmental impacts, will be positive. The BLM will be able to reduce their management costs and the savings can be passed on to both the Treasury and O & C Counties.

SOTIA recommends that the BLM add a brief discussion of the economic and social impacts of the proposed action to the final supplemental environmental impact statement prior to its publication.

In conclusion, SOTIA believes that the Draft Supplement adequately describes the environmental impacts of the proposed action. However, SOTIA recommends that the economic and social impacts of the proposed action be added to the supplement prior to finalization. Also, SOTIA urges the BLM to minimize all possible risks of a lawsuit by insuring that the final supplement is legally "bullet-proof".

Thank you for this opportunity to provide comments.

Sincerely,

Sue Joerger
Executive Vice President

SJ:lrm

Michael S Meredith
3200 Camp Baker Rd
Medford, OR 97501
December 18, 1984 **31**

Al Carson, Planning Coordinator
BLM
3040 Biddle Rd.
Medford OR 97504

I am a professional forester with 9 years experiense in Southern Oregon forestry. I feel that the draft supplement to the FEIS for the Medford District BLM timber management plans adequately assesses impacts from the proposed changes in harvest methods.

Shelterwood and clearcut regeneration systems are both evenaged management tools. Except on very severe sites, clearcutting followed by good site preparation, planting, and vegetation control will result in a better stand in less time for less expense than a shelterwood. Site disturbance is actually less with clearcutting, as it occurs only once per timber rotation rather than 2 or 3 times.

The BLM has acted responsibly in preparing this draft, and it is my judgement that all environmental impacts have been considered and adequately addressed.

PORTOLA PROPERTIES INCORPORATED

32

December 18, 1984

Hugh Shera
District Manager
BLM-Medford District
3040 Biddle Road
Medford, Or. 97504

Mr. Hugh Shera:

Re: Draft Josephine/Jackson-Klamath Timber Management Supplemental Environmental Impact Statement.

32-1 As a member of the Grants Pass business community, I share the concern of other businessmen that we maximize timber harvest on a sustained yield basis given the necessary environmental safeguards. Our local economies cannot afford to waste any of the productive capabilities of our federal lands, or the techniques--both new and used--that can be employed to manage them.

While I do not feel qualified to comment on the technical aspects of your Supplemental Draft Environmental Impact Statement, I do wish to express my hope that the BLM's methodology will stand up to close scrutiny. We cannot afford to have our timber harvest slowed or reduced by the legal acrobatics of a gifted minority. I would encourage you to do all you can to "armor-plate" your work against such eventualities.

I appreciate the opportunity to comment.

Yours truly,

Martin G. Bauer
Vice President & Broker

A Subsidiary of

P.O. BOX 967 • GRANTS PASS • OREGON • 97526 • (503)476-5305

Southwest Forest Industries
PACIFIC NORTHWEST DIVISION

P. O. Box 820
Medford, Oregon 97501
Telephone (503) 776-5750

33

December 14, 1984

Mr. Al Larson
Planning and Environmental Coordinator
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Dear Mr. Larson:

The following is my response to the Draft Supplemental EIS to the Final Environmental Impact Statements for the Josephine and Jackson-Klamath Ten Year Timber Management Plans.

The Supplemental EIS is good enough for me. Furthermore, I approve of this "housekeeping measure" to legitimize your operational improvements in forest management on the ground by developing a supplemental EIS. In fact, I applaud your rapid application of techniques to improve forest practices on the Medford District that will lead to actual greater productivity and resource protection before doing all the red tape work to "justify" it. However, this very approach leads to vulnerability with those persons and groups who are against greater productivity and gives them "handles" to obstruct your new found improved practices. So, please accept my remarks that follow as aids to help you develop a more defensible document. Your defense of it will probably wind up in court eventually.

33-1 In general, although this is a supplement to the original EIS, wherever statements are made that tie back to the EIS, it should be so stated, rather than assuming that the reader has the EIS and is automatically referring to it.

33-2 On page 4 of the Supplement, last paragraph of D, there is a statement about the decrease in road mileage and a reference to Table Two. Someone could ask to see the work that justifies this assertion. Where can it be found?

33-3 Also, on page 4, 1. Clearcut, you need to reference the assertion made in the second sentence about "stocking standards can be effectively achieved on most sites through clearcutting." Merely making the assertion will not suffice for a skeptic without documented proof.

Likewise, on page 5, second sentence, it needs to be shown that improved techniques have in fact resulted in achieving successful regeneration, not previously achieved prior to application of state-of-the-art information. Research data from FIR could do this.

33-3 Again in the second paragraph page 5, the SEIS says, "This process has proven to be successful in practice...." Where is the proof?

33-4 On page 5, fifth paragraph it says, "Under the first situation, natural regeneration of the site did not occur. The shelterwood attempt created a condition where the site was quickly occupied by a heavy component of brush and grass, preventing adequate natural regeneration." This condition, then is used to justify clearcutting the remaining overstory to prepare the site for artificial regeneration. There must be an explanation why underplanting in this situation would not be a generally viable alternative to clearcutting. I think I know why, but you need to explain it to the philosophically hostile layman.

There is an explanation why clearcutting is recommended in those instances where restocking is adequate, but I feel the explanation is somehow inadequate. Are there any alternatives to clearcutting in those instances? What are they? Why won't they work?--biological, economic, physical?--with documentation.

33-5 On page 6 in the second paragraph, there is a statement that "records to date indicate that stocking has been achieved on 78 percent of all reforested units (clearcut, shelterwood and other)." This statement needs a lot of clarification. What kind of stocking has been achieved, minimal, adequate, 100%? What is adequate stocking? Is stocking on 78 percent of the units considered good, fair, poor? The next sentence indicates that "84 percent stocking has been achieved on clearcuts which is better than the average stocking rate of 77 percent for clearcuts as reported by Stein (1982)." Is this 84 percent on the same basis as the 78 percent reported above? Are we talking about a percent of the units, percent of the area of the units, or percent of optimum number of trees per acre?

33-6 The explanation of all of the above should be backed up with charts, graphs, etc., and basic data to prove the figures.

33-7 Another point. If the present regeneration percentage is adequate, then why change to a "new" system stressing clearcuts?

33-8 On page 6, paragraph 2. Shelterwood (1) Hot dry area with skeletal, shallow soils. The layman needs to have the word "skeletal" as applied to soils defined.

33-9 On page 7, paragraph 3. Trees Left Per Acre Under Shelterwood Systems, second paragraph, second sentence, "Operational experience indicates that approximately 8 to 12 leave trees per acre are sufficient to meet the regeneration objective." Please document that statement and provide the records to prove it.

Under the section on B. Soils, I believe you should do the following:

33-10
1. Discuss the general subject of soil productivity loss through burning and the relation of cutting systems thereto, with appropriate research documentation.
2. Relate the change in proposed cutting regime to soil productivity loss discussed in 1. above and how the change will reduce the loss.
3. It is stated that a 19 percent reduction in road construction would result in an equal reduction in erosion and loss in soil productivity. Is this subject covered in the EIS? Where? Please produce documentation to show

what the erosion consists of and that there will be a straight line reduction.

33-10 4. Show that the yarding systems mix would not change as acreage to be yarded is reduced.

5. Where is the data on soil productivity loss due to burning? In the EIS? Please document.

33-11 Paragraph C. Water Resources. Is there research or other data to support the statements made in the first paragraph? In the paragraph dealing with sedimentation, can you refer to the research or other data that backs up the estimates made?

33-12 Page 10, paragraph D. Vegetation. Please explain why the proposed changes would not significantly change vegetation structure or composition from that expected in the two FEIS's. I thought by clearcutting you would eliminate a lot of brush that would instead be conifers.

33-13 Page 10, E. Animals. The second paragraph needs to discuss the long term effect on deer and elk populations expected under the former harvesting program compared with the proposal. In the next paragraph you should display through charts or graphs the assertion that "in 10 or 15 years, the future forest structure would be essentially the same under either harvesting regime." Will there be any effects from the new harvesting regime on non-game species? Why?

33-14 On page 11 under F. Fish, there is a statement that "Timber harvest on fewer acres... and create less sediment in streams." There are those who believe that sediment from clearcuts would be greater than from shelterwood cuts and would outweigh the fewer acres cut. Do you have research proof, and can you provide it, that sedimentation would indeed be less?

33-15 Page 11, G. Recreation. The two paragraphs need expansion and explanation. There are going to be more clearcuts. Clearcuts are offensive to some people. The last sentence about BLM land viewed by the public needs to be proven or explained.

Page 11, paragraph I. Visual Resources. The second paragraph which discusses the differences and similarities between the shelterwood and clearcut system is good and actually applies to my comments above under recreation.

I do not consider myself an expert on NEPA, but I have seen enough environmental impact statements "bite the dust" to know that an EIS writer must anticipate every possible place where the statement could be attacked. As long as all the possible environmental effects have been adequately considered by the agency, it could even make a decision that might be harmful to the environment, but all impacts must at least have been considered and explained so a layman can understand.

There are probably other items in your supplement that I have not noticed that need explaining and/or documenting. I urge you to ferret out every conceivable possible item that could be attacked. If you don't, your opponents will.

I hope you will be successful in maintaining the improved forest management program. Based on my many years as a forester in Southern Oregon, I believe you are on the right track.

Good luck.

Very truly yours,

Edgar A. Kupillas

Edgar A. Kupillas
Division Timber Manager

EAK/pgm

34

Saddletime Farm
345 Cheraton Drive
Williams, Oregon
97544
846-6600 farm
474-5700 office

Hugh Shera, Dist. Mngr.
BLM
3040 Biddle Road
Medford, Oregon
97501

Dear Mr. Shera,

Due to work committments, I will not be able to attend the meeting on Wednesday to discuss the issue of clear cutting BLM timber. I am firmly opposed to clear cutting this

34-1 acerage as it is a colossal blight on the country side, both aesthetically and conservationally.

After being away from the mountainous beauty of southern Oregon for twenty years, I have returned to indulge my life long passion for Morgan horses. Raising, training and showing horses demands a lot of physical, mental and financial expenditure. I draw so much strength and satisfaction from the majestic mountains surrounding my cherished Saddletime Farm and would ask you personally to prevent further destruction of such God given beauty.

Sincerely,

Candace M. Morasch

Candace M. Morasch

35

12/17/84

Hugh Shera
BLM Medford District
Medford, Or

Dear Sir:

We have read your Oct. 24 Supplemental EIS which

35-1 appears to be a strongly biased covering or naivette of the issues which we say doesn't make sense. You have violated the National Environmental Policy Act by over-cutting(as of now 20,651 acres instead of the 9,000 as per 10 year Plan). This is a 500% increase.

35-2 BLM has failed to carefully consider the cumulative dffect of their deviation from the 10 yr plan. If BLM, Forest Service and private industry all clearcut the same watershed what is the result in erosion, siltation of streams, flood damage and destruction of wildlife? Yours for common sense.

Very sincerely,

W. R. Newby

The Newbys
Selma, Oregon

36

Dec 17, 1984

Al Larson-Planning & Environmental Coordinator
BLM
3040 Biddle Rd
Medford, Oregon 97501

RE: Comments on proposed changes in clear cut acreage in the SEIS- Jackson-Klamath/ Josephine Sustained Yield Units

Dear Mr Larson;

36-1 In my opinion, this SEIS fails to address the problem of over cutting in the J/J-K SYUs. The facts are that BLM has already cut 20,621 acres in four years when the 1979-80 EIS called for 9,000 acres to be clear cut in 10 years. 15,833 acres of "failed" shelterwood have al-ready been converted to clear cuts. The SEIS is supposedly a guideline for the future. However, it seems a meaningless gesture for the Bureau to ask for public comment when the proposed action is already taking place. This is an affront to the NRPA process which encourages public comment before a proposed action and could have been issued at a time before the overcutting took place.

36-2 The idea of destroying trees which have previously been established on the sites seems wasteful. It is surprising that no alternatives were considered that would not only save these trees but create jobs. Manual clearing of brush in those areas where harvesting can be done with minimal damage to smaller trees should be considered. The areas that are understocked could then be filled. Another plan would be to leave sites which are adequately stocked with an overstory until all trees are mature enough for harvest. This would lose some harvestable timber now but in the long run would insure a well stocked, healthy forest.

36-3 Your section on environmental consequences draws the conclusion that there will be no significantly greater effect on on anything but air quality than is discussed in the 1979-80 EIS. A non site specific analysis is used to determine this. The total miles of roads, total increase in stream flow, total impact on fisheries is analyzed as is the amount of yarding to be done etc. Elsewhere in the document you say that prescriptions and TMPs are always made on a site specific basis because of variation from site to site. Environmental effects must therefore also be considered on a site specific basis rather than a total statistical analysis.

36-4 Lastly, the past BLM management has shown many mistakes which are now haveing to be dealt with. It would therefore seem prudent to try to stay as close to the 10 Year Plan as possible rather than to significantly change it after only four years. Plantations trees which have already been established should be considered successful and harvesting of old growth should be worked around these or not done at all.

Sincerely,
Susan Delles
Susan Delles
2801 Sykes Creek Rd
Rogue River 97537

37

December 16, 1984

990 Tetherow Rd.
Williams, OR 97544

Hugh Shera
Bureau of Land Management
3040 Biddle Rd.
Medford, OR 97504

Dear Mr. Shera,

37-1 We are appalled at the dramatic increase in the number of acres that will be clear cut under the proposed Supplemental EIS. Living in the Williams Valley, which is surrounded by BLM lands, we are acutely aware of the visual impact which some clear-cutting has already had on the Valley. We have chosen to live in this area because of its beauty; few of us living here want to see a continuous clear-cut

37-2 where beautiful forests once abounded. We appreciate these forests for more than just the logs within them. There can be no doubt that wholesale clear-cutting of this magnitude will greatly affect watershed, wildlife, and recreational considerations throughout the Medford Resource District.

We're also skeptical that forest management on a sustained yield basis can be maintained under the provisions of this supplemental EIS. We are not against logging and wise use of the forest resource, but making and changing at your will the guideline by which our forests are governed would not seem to be the method to obtain the wise, long-range planning that they and we deserve and require.

Thank you for including our comments in the record.

Sincerely,

Ray & Peg Prag

Ray and Peg Prag

Deer Creek Valley
Natural Resources Conservation Association
5795 Upper Deer Creek Rd.
Selma, OR 97538

38

December 17, 1984

Hugh Shera
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97504

Dear Mr. Shera:

In reference to the Draft of Josephine/Jackson-Klamath Timber Management Supplemental Environmental Impact Statement of November 1984, our organization find this draft unacceptable for the following reasons:

38-1 #1. It violates Congressional directive "Church's Guidelines for clearcutting."

38-2 #2. It violates the Federal Land Policy Management Act (FLPMA). "Productivity" encompasses all multiple uses and is a protection against advocates of a single use-timber only.

38-3 #3. It violates the National Enviornmental Policy Act (NEPA). No where in this document do you take into consideration CUMULATIVE EFFECTS. You constantly refer to the first decade as though logging had just began.

38-4 You fail to take into consideration the past 35 years of intensive logging and the fact that FIR "Forest Intensive Research" was established in 1978 because you were unable to get replanted trees to live, especially in hot, dry areas such as the Illinois Valley. This leaves a very large backlog of either very small trees or land that still needs reforestation. Both should be considered as well as private land use and U.S. Forestry land. More land is being sub-divided for homesteads and therefore more areas become denuded of trees. This causes environmental changes that should be included in a cumulative impact study.

NEPA requires "the impact on the environment which results from the incremental impact of the action when added to other past, present, and the reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such action." 40 C.F. R. S1508.7.

38-5 The increase in clearcutting will mean an increase in water run-off which will mean a decrease in underground water supplies and will have an impact on Deer Creek, and similar streams in the area

-2-

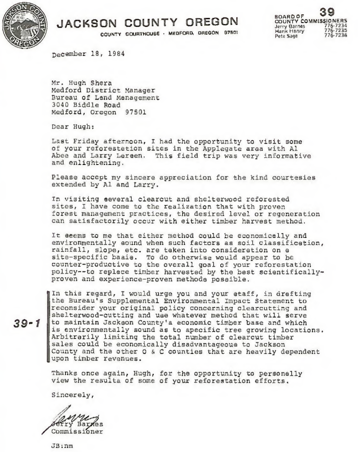
38-6 The increase in burning of slash will have a cumulative effect on Grants Pass, Medford and Ashland areas which are over EPA standards presently.

38-7 #4. It violates the O & C Act of 1937. Since your records are not current and will not be until 1986 according to correspondence sent to our organization when we requested information on old growth in the Deer Creek Watershed. We were informed that such information is not available and will not be until 1986. Therefore there is no way to have a sustained yield if you do not know what timber is available. Under these circumstances, you should not cut any timber until your records are current.

38-8 Proper timber management must consider all current facts such as the age of trees, the amount of trees, present land use on private and public property, water quanity and quality (such as Deer Creek's deteriorated condition), fisheries, wildlife, air quality (Grants Pass, Medford, and Ashland), history and tourism-scenery-recreation. Without current records there is no way you can take these concerns into consideration.

Sincerely,
Jean Patterson
Jean Patterson
Chairman of the
Deer Creek Valley Natural
Resources Conservation
Association

A member group of
Headquarters



JACKSON COUNTY OREGON
COUNTY COURTHOUSE · MEDFORD, OREGON 97501

BOARD OF COUNTY COMMISSIONERS
Jerry Barnes 776-7234
Hank Henry 776-7235
Pete Sage 776-7236

39

December 18, 1984

Mr. Hugh Shera
Medford District Manager
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97501

Dear Hugh:

Last Friday afternoon, I had the opportunity to visit some of your reforestation sites in the Applegate area with Al Abee and Larry Larsen. This field trip was very informative and enlightening.

Please accept my sincere appreciation for the kind courtesies extended by Al and Larry.

In visiting several clearcut and shelterwood reforested sites, I have come to the realization that with proven forest management practices, the desired level or regeneration can satisfactorily occur with either timber harvest method.

It seems to me that either method could be economically and environmentally sound when such factors as soil classification, rainfall, slope, etc. are taken into consideration on a site-specific basis. To do otherwise would appear to be counter-productive to the overall goal of your reforestation policy--to replace timber harvested by the best scientifically-proven and experience-proven methods possible.

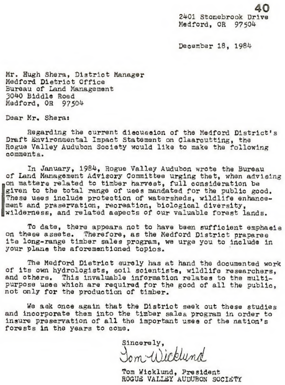
39-1 In this regard, I would urge you and your staff, in drafting the Bureau's Supplemental Environmental Impact Statement to reconsider your original policy concerning clearcutting and shelterwood-cutting and use whatever method that will serve to maintain Jackson County's economic timber base and which is environmentally sound as to specific tree growing locations. Arbitrarily limiting the total number of clearcut timber sales could be economically disadvantageous to Jackson County and the other O & C counties that are heavily dependent upon timber revenues.

Thanks once again, Hugh, for the opportunity to personally view the results of some of your reforestation efforts.

Sincerely,

Jerry Barnes
Commissioner

JB:nm



40

2401 Stonebrook Drive
Medford, OR 97504

December 18, 1984

Mr. Hugh Shera, District Manager
Medford District Office
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Dear Mr. Shera:

Regarding the current discussion of the Medford District's Draft Environmental Impact Statement on Clearcutting, the Rogue Valley Audubon Society would like to make the following comments.

In January, 1984, Rogue Valley Audubon wrote the Bureau of Land Management Advisory Committee urging that, when advising on matters related to timber harvest, full consideration be given to the total range of uses mandated for the public good. These uses include protection of watersheds, wildlife enhancement and preservation, recreation, biological diversity, wilderness, and related aspects of our valuable forest lands. 40-1

To date, there appears not to have been sufficient emphasis on these assets. Therefore, as the Medford District prepares its long-range timber sales program, we urge you to include in your plans the aforementioned topics.

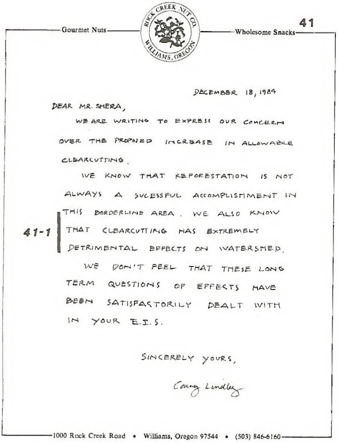
The Medford District surely has at hand the documented work of its own hydrologists, soil scientists, wildlife researchers, and others. This invaluable information relates to the multi-purpose uses which are required for the good of all the public, not only for the production of timber.

We ask once again that the District seek out these studies and incorporate them into the timber sales program in order to insure preservation of all the important uses of the nation's forests in the years to come.

Sincerely,

Tom Wicklund

Tom Wicklund, President
ROGUE VALLEY AUDUBON SOCIETY



Gourmet Nuts — ROCK CREEK NUT CO. WILLIAMS, OREGON — Wholesome Snacks

41

DECEMBER 18, 1984

DEAR MR. SHERA,

WE ARE WRITING TO EXPRESS OUR CONCERN OVER THE PROPOSED INCREASE IN ALLOWABLE CLEARCUTTING.

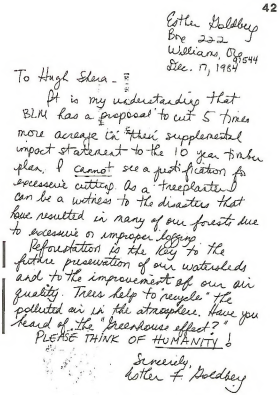
WE KNOW THAT REFORESTATION IS NOT ALWAYS A SUCESSFUL ACCOMPLISHMENT IN THIS BORDERLINE AREA. WE ALSO KNOW THAT CLEARCUTTING HAS EXTREMELY DETRIMENTAL EFFECTS ON WATERSHED. 41-1

WE DON'T FEEL THAT THESE LONG TERM QUESTIONS OF EFFECTS HAVE BEEN SATISFACTORILY DEALT WITH IN YOUR E.I.S.

SINCERELY YOURS,

Conny Lindley

1000 Rock Creek Road • Williams, Oregon 97544 • (503) 846-6160



42

Esther Goldberg
Box 222
Williams, Ore 97544
Dec. 17, 1984

To Hugh Shera -

It is my understanding that BLM has a proposal to cut 5 times more acreage in their supplemental impact statement to the 10 year timber plan. I cannot see a justification for excessive cutting. As a treeplanter I can be a witness to the disasters that have resulted in many of our forests due to excessive or improper logging.

42-1 Reforestation is the key to the future preservation of our watersheds

42-2 and to the improvement of our air quality. Trees help to "recycle" the polluted air in the atmosphere. Have you heard of the "Greenhouse effect?"

PLEASE THINK OF HUMANITY!

Sincerely,
Esther F. Goldberg

43

To: Al Larson
BLM
3040 Biddle Road
Medford, Oregon 97504

From: Joe Knotts
P.O. Box 1023
Ashland, Oregon 97520
December 18, 1984

Dear Mr. Larson:

I have reviewed the SEIS of the Josephine/Jackson-Klamath Timber Management Plan. According to the BLM only the adequacy of the supplement may be addressed. I shall attempt that first.

43-1 1) Where in the document do you show evidance that the amount of proposed clear cuts will permit sustained yield on a continuing basis. Your own data states that reforestation on shelterwood cuts has been disappointing at best -- particularly when returning to the "shelterwood" site a 2nd and 3rd time in five years to clean out the rest of the timber. With a lower reforestation success, unfortunately, allowable cuts should probably be recalculated.

2) Recent court decisions have, at least temporarily, halted the use of phenoxy herbicides as an intensive forest management tool. At one time the allowable cut was based on a certain percentage increase because of their use. Where do you address the recalculation of allowable cut to account for discontinuance?

3) Recently (4 years worth), the Reagan Administration has cut, and cut again the amount of funds available for forest management, especially reforestation. As much as the plan calls for reforestation, thinning, and fertilization, should it not be taken into account that much of what has actually happened is less than the plan, and what will happen also will depend on funding levels?

43-2 I am no timber management specialist (they are "my" forests too), but I know for a fact that roadbuilding #1, and timber harvest techniques #2 are the major human causes of negative environmental consequences. So I am pleased to see the proposal to decrease roadbuilding. I think your statistics cover the effects. But I am still concerned about the shelterwood cuts. From a practical point of view you state it is not worth the expense to go back in a 2nd and 3rd time. You state that returning a 2nd (or 3rd) time within the five year period has caused serious damage to the reforestation efforts. So..

4) I think the shelterwood cuts shoud be addressed more thoroughly. I think the option of leaving the shelterwood trees for 30 to 60 years should be addressed so that their purpose, to let the reforestaton take place, may be accomplished. Is your tree number per acre enough to keep them from all blowing down?

43-3 5) Handling of slash. Are there no other alternatives to burning? I've planted trees and know how much easier it is to plant in a site prepared by burning. But what about other alternatives? Chipping for mulch?

43-4 6) Fish/Water Quality. One of the negative consequences of more clearcutting is an "increase in water yield". Let's call it runoff and erosion. If BLM goes to more clearcuts, the SEIS should address better stream protection, wider buffer zones, less impacting logging techniques closer to streams.

I note that you call a thrice cut "shelterwood" a de facto clearcut. I think the concept of shelterwood was good but got a bad reputation from mishandling to de facto clearcutting.

So there you have it, a combination of items I think need to be addressed in the final SEIS, and some salty opinion.

Sincerely,

Joe Knotts

Joe Knotts

Note: please enter copy of this letter into record of the decision document.

44

NORTH WEST TIMBER ASSOCIATION
1355 OAK STREET • P.O. BOX 5554 • EUGENE, OREGON 97405
TELEPHONE: (503) 686-9603

December 19, 1984

Mr. Hugh Shera, District Manager
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Dear Mr. Shera:

On behalf of the members of North West Timber Association I am pleased to comment on the Supplemental Environmental Impact Statement for the Josephine/Jackson-Klamath Timber Mangement Plan. Our membership consists of small independent lumber and plywood producers who are nearly 100 percent dependent upon public timber supply as their source of raw material. Several of our members are key purchasers of the Medford BLM District and, therefore, are directly affected by the management decisions of the timber resource.

Based on a complete review of the Environmental Impact Statement (EIS), and our intensive involvement in the development of the original plans, we are in total support of the proposed action and urge its implementation. We see no technical deficiencies in the EIS.

The decision to use shelterwood harvesting extensively has been controversial since it was first implemented. However, the decision was made on the basis that it was needed to achieve regeneration objectives. Time and technical advances have now shown that, not only is shelterwood not needed, but that the system fails to meet the objectives for which it was intended.

Those who have made the change to clearcutting a public issue are not, in our evaluation, concerned with the regeneration objectives. Rather, they are simply using the issue and the legal maze to further their objections to management and harvest of timber in general, and the use of the silvicultural tool of clearcutting in specific.

It must be recognized that these special interests see the appeal process and the EIS simply as tools to be used or abused in meeting their higher goals. There is no room for consensus or compromise. The BLM has clearly identified the need and professional justification for the preferred alternative, and it must be implemented. Every effort should be made to assure that the legal requirements for an acceptable EIS are met.

44-1 One important and positive element of the proposed action which was not discussed is the economic and social impact. The guiding force for the majority of the BLM's land is the O & C Act and the emphasis on community stability. Reaching this primary objective requires not only that the sustained yield of timber be made available on the market, but that it be priced at a level that local industry can afford. Obviously, lower operating costs for timber sales will increase the dollars returned to the counties, and enhance the stability of the industry and its thousands of employees. The recent sales which went no-bid are a clear indication that, in some cases, sale economics are becoming marginal for BLM timber. A side benefit of the proposed action will be improved sale economics.

One of the primary costs of timber sales is road construction. The proposed action will reduce the miles of new road construction during the decade by 165 miles which, in turn, will increase the economic feasibility of the timber sale program and increase the returns to the counties.

Partial cut harvesting of timber, as in shelterwood systems, is significantly more expensive than with clearcutting. Not only are the fixed costs spread over a smaller per acre volume, but actual operating costs are higher on partial cut sales. The move to clearcutting, while justified on silvicultural grounds, will have an added benefit of improved sale economics.

The knowledge that the proposed action will have both less environmental impact and positive economic benefits is important news for the communities of southern Oregon. We suggest that the items be addressed and included in the final EIS.

The professional and upfront manner in which you and your staff have dealt with this issue, in light of continuous harassment, is most admired. Our Association commends your actions and urges that you implement the proposed action.

Sincerely yours,

R. Dennis Hayward
Vice President, Resource Issues

mm

TELEPHONE 503/832 2151

SUPERIOR LUMBER CO.

MANUFACTURERS OF PACIFIC COAST FOREST PRODUCTS
POST OFFICE BOX 250 GLENDALE, OREGON 97442

45

December 19, 1984

Hugh Shera
District Manager
BLM - Medford District
3040 Biddle Road
Medford OR 97501

RE: Josephine/Jackson-Klamath Timber Management
Supplemental Environmental Impact Statement

Dear Hugh,

Since Superior Lumber Co. depends almost entirely on federal forest lands as a source for raw materials, we are very concerned with the management plans of the Medford Bureau of Land Management.

45-1 Superior Lumber Co. supports the decision to change from shelterwood harvesting to clear-cutting because it is good forestry and it will have a positive economic impact on the local area. The change is environmentally sound because of reduced road construction and fewer entries over the rotation are needed.

The BLM must, however, be sure that legal requirements of NEPA and the CEQ Guidelines are adhered to. A thorough review of the draft EIS should be conducted and any deficiencies be corrected prior to publication of the final Supplemental EIS.

Sincerely,

Steven D. Swanson
Asst. General Manager

PACIFIC POWER & LIGHT COMPANY
P. O. BOX 1148
MEDFORD, OREGON 97501

46

December 18, 1984

Al Larson
Bureau of Land Management
3040 Biddle Road
Medford, OR. 97504

Dear Mr. Larson:

I have reviewed the draft timber management Supplemental Environmental Impact Statement and would like to offer some general comments on the document.

Since I am not a forester by profession and am not familiar with the complex legal and environmental requirements the BLM must comply with, I must rely on the professional judgement of the resource managers to determine the adequacy of the Statement. Certainly the document is well written. It is mercifully brief and to the point. Even a laymen like myself can understand the environmental impacts of the proposed change from shelterwood to clearcut harvesting.

46-1 The environmental consequences are thoroughly analyzed and it seems that since less acres are affected using clearcut rather than shelterwood harvesting the impacts are actually positive. The only negative impact is a slight increase in smoke from slash burning, but I understand slash and field burning are closely regulated to maintain current air quality in populated areas.

46-2 The only analysis in the statement that is missing is a discussion of the economic and social benefits and costs of the proposed action. It appears obvious that if professional foresters and resource managers have found better ways to grow and harvest trees in Southern Oregon, the local communitites, O & C county receipts and even the federal treasury should benefit. I recommend that such an analysis be added to the final statement.

Thank you for considering my comments.

Sincerely,

Harry Hutton,
Manager
Energy and Conservation Services

HH:imr

MEDFORD CORPORATION

47

December 19, 1984

Hugh Shera
District Manager
BLM - Medford District
3040 Biddle Road
Medford, OR 97504

Dear Mr. Shea:

Just a couple of comments on the BLM Supplemental EIS.

First, I appreciate the BLM response to public concerns. Your response has been appropriate since it began with listening to the public and then allowing professionals to actually make decisions.

47-1 Second, there is a real need to make the final draft as immune to lawsuits and political/emotional tampering as possible. One suggestion is to add a brief discussion of the economic and local social impacts of the proposed action and alternatives.

Keep up the good work.

Sincerely,

Michael Bormuth

Michael Bormuth
Forester
MEDFORD CORPORATION

Dec 17, 1984

RECEIVED
DEC 1984
BUREAU OF LAND MGT.
MEDFORD, OREGON

48

Mr Hugh Shea
District Manager BLM Medford
3040 Biddle Road
Medford Or 97501

Dear Sir

I'm writing about the proposed changes in the cutting policy of B.L.M.

48-1 To clean cut the forest is to much barren land for many years. - To ~~[illegible]~~ select cut or shelter wood is better for the future of our forests and water shed. Some forests or tracts should not be cut for any reason.

Clear cutting in and above Williams Valley will leave devastation to be looked at. We would like a 5 mile (plus) from the valley for any clear cutting.

Sincerely
Mr + Mrs E Smalley
P.O. B 66
1510 Tetherow Rd
Williams Or 97544

P.S. Please put and extension to the 1st of Feb for more imput about our forests. Thank you.

49

January 13, 1984

Hugh Shera, Dist Mgr
MEDFORD BLM
3040 Biddle Rd
Medford, OR 97504

Reference: BLM Proposal to increase clear-cut acreage from 9, 000 to 55, 000 acres as a supplement to the existing 10 year timber plan of Jackson-Josephine -Klamath Counties.

COMMENTS: 49-1 The BLM proposal is yet another clear illustration of their poor management of our surrounding BLM governed forests and timber harvests. It is also an excellent example of their insensitive attitude toward this area's environmental quality. To date, the BLM has allowed approximately 15, 000 more clear-cut harvested acreage than what was planned for the entire 10 year plan. The ceiling figure of the proposed 55, 000 acres (from 9, 000) represents what the BLM has allowed to be harvested and planned to be harvested in the same timber harvest period of 1979-1989. It is an obvious and clumsy attempt to bring the 10 year plan in line with what the BLM has already done. It's like changing the law to justify the crime. 49-2 Timber prices are low, a lumber glut exists, housing construction is down and with every clear cut harvest, possibilities exist for more watershed damage, soil errosion, water polution and ugly visual impacts to every community. There exists, in my opinion, no logical, environmental and economical justification for this clear-cut increase.

49-3 The United States Congress set forth guidelines for clear-cut timber harvesting in an effort to help protect our fragile environment. These guidelines are known as the CHURCH CLEAR-CUT GUIDELINES. The United States National Forest Service adopted these guidelines into their own acts of timber management as a pledge to follow these regulations. To date, the BLM has not.

This new proposal to increase the clear-cut acreage from 9, 000 to 55, 000 is still another clear example of the BLM's inability to follow established timber harvest guidelines, whether it be their own or the United States Government.

Bob A. Pleu
Williams, OR

PO Box 2
Williams, OR 97544

50

12-18-84
540 Caves Camp Rd.

Hugh Shera
Bureau of Land Management
3040 Biddle Rd.
Medford, OR 97504

Dear Mr. Shera,

I am writing in regard to the increase in the number of acres that will be clear cut under the proposed Supplemental EIS. I have lived in the Williams valley for over ten years and would like to consider this a permenant home for my family and myself. We have chosen to live here in a large part because of the natural beauty that we are blessed to witness. I have seen my particular view turn from one of lush forests to a patchwork of unsightly cuts. I am appalled at the thought of these cuts dramatically increasing, not only 50-1 ~~at~~ esthetically speaking, but in terms of affecting watersheds, wildlife and recreation.

I am not against logging and wise use of the forest 50-2 resource, but making and changing at your will, the guidelines by which our forest are governed, does not seem to take into consideration any long-range planning. Our forests and my community deserve a ~~voice~~ closer look at this unreasonable proposal.

Thank you for your time and consideration.

Sincerely,
Jan Bullard

51

DANIEL C. STONER
383 WATERS CRK RD
WONDER, OR 97543 Dec 19, 1984

Dear Mr. Shera,

We are appalled at the dramatic increase, in the number of acres to be clear cut under the supplemental EIS.

We must save some OLD GROWTH TIMBER for our FUTURE GENERATIONS

Please do not destroy OUR BEAUTIFUL OREGON

A Concerned Family

Daniel C. Stoner
LeeAnn Stoner
HEATHER STONER

T.R.E.E.
THOMPSON CREEK
RESIDENTS FOR ECOLOGICAL EDUCATION
P.O. Box 291
Applegate, OR.
97530

52

December 20, 1984

Mr. Hugh Shera, District Manager
Bureau of Land Management
3040 Biddle Road
Medford, Or. 97501

Re: Proposed Draft Supplement to Josephine and Jackson/Klamath Timber Management EISs. (DSEIS)

Dear Mr. Shera,

First and foremost, as a participating member of HEADWATERS, Inc., Thompson Creek Residents for Ecological Education (TREE) would like to state that we entirely concur and wholeheartly support the extensive review and comments regarding the DSEIS submitted by HEADWATER, Inc. We sincerely hope that Medford BLM will give the HEADWATERS DSEIS review document the consideration and study it is due.

52-1 TREE has long contended that Medford BLM is not only in violation of their Josephine and Jackson/Klamath EIS documents, but that these documents are also deficient.(see Humpy Mountain Timber Sale IBLA #84-351 and the Thompson Creek Timber Sale Statement of Reasons and Rebuttles for the details of these deficiencies) TREE would like to emphatically state that since most of these deficiencies are not rectified by the DSEIS they must be seen as omissions from your DSEIS, and therefore the document is incomplete at best!

52-2 One of the most glaring omissions from this DSEIS is the issue of the cummulative effects of multiple timber sales and the following timber harvest. Living in a watershed that is impacted by both Medford BLM and the Rogue River National Forest (RRNF-Applegate District) it is of prime concern to TREE and the concerned citizens we represent,that an effort to establish significant dialogue, study, and the resultant guidelines be initiated as soon as possible. At the very least the DSEIS should address this deficiency and propose corrective actions.

52-3 As you may know, for the past year TREE has been negotiating a mutually agreeable timber sale with the Applegate Ranger District of the RRNF. Appart from the actual timber sale itself, a number of recommendations will be forthcoming from our discussions. One of these recommendations is that more effective communications and study be initiated between the RRNF, Medford BLM, and citizens of the impacted watersheds.

It is TREE's contention that with a sincere attitude toward learning and change, through honest appraisal, self critism, and on open exchange of ideas a truly innovative, informative, and mutually beneficial dialogue could take place. The purpose of this dialogue would be to study the current cummulative effects of timber harvesting within a drainage, as well as synthesize a model for future communication and study.

TREE feels that for too long we have interacted as adversaries, when real constructive progress could be made by interacting in a spirit of cooperation. This would result in far reaching benefits to all parties, including the savings of enormous quanitities of energy and resources.

It is therfore TREE's intent to bring to Medford BLM's awareness the deficiencies in the DSEIS concerning the cummulative effects of timber harvesting in hope that this omission can be addressed in the final SEIS.

Respectfully submitted by,

Russell D. Park
Chairperson TREE

53

Bureau of Land Management
3040 Biddle Road
MEDFORD, OR. 97501

12/18/84

The following testimony is submitted by Paula Downing, member of Crooked Cedar Concerned Citizens, and President of Headwaters Community Association. Please give attention to these comments in your preparation of the Final Supplemental Environmental Statement.

My comment is divided into three mein sections:

I. Introduction, short history, public involvement.
II. The Major Issue: the allowable cut and the timber practices employed to carry out that 10 year plan.
III. Unresolved questions and issues of importance.

I. Introduction

Shortly after moving to Oregon in 1973 I became involved in BLM management practices when a government representative knocked at our door and announced that BLM was willing to offer us $1.00 for easement across our property in order to log the remaining'old growth'trees in our watershed.
My first appeal was written about those trees.

Several years later Headwaters was established in order to facilitate and expedite the possibilities for meaningful public involvement in BLM management practices. Because Medford BLM was resistant to public involvement and disclosure as described by NEPA, Headwaters sought the help of a national environmental organization, NRDC*--the result was the first court ordered environmental statement for the Josephine Master Unit.

Today, five years after the publication of that statement, the public is pounding at Medford BLM's door with greater force and seriousness--24 appeals within the past few years, according to a recent BLM press release.

Medford BLM is at a crossroads, once again. You can either work towards resolving the real differences regarding timber management practices that exist between the local community and your egency; or, you can continue to throw eway "between $35,000 and $50,000 each yeer to handle the protests and appeals". (Mail Tribune, Bob Anderson speaking, 12/84)

As spokesperson for Headwaters I am absolutely confident that there are workable reasonable solutions to our problems. If the BLM would hold meaningful roundtable discussions about management activity, a new 10 year plan could be formulated that would satisfy all parties, including the industry, the community and the government.

II. The Allowable Cut

We would like to begin our comment here with a quotation from the Josephine Timber Management Environmental Statement:

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*NRDC - Natural Resources Defense Council

> Description of the Action:...Proposed annual timber harvest is...103 mmbd. ft. consisting of 94 mmbd. ft. as sustained yield allowable cut from high intensity forest management land and 9 mmbd. ft. as trial harvest from low intensity forest management land not included in the sustained yield computation base. Treatments implicit to the proposal include road construction, harvest employing predominantly shelterwood systems with some clearcutting, slash disposal, site preparations predominantly with herbicides, planting of trees, herbicide release of established plantations, precommercial thinning, fertilization, and commercial thinning.

This particular action--the proposed allowable cut and the treatments implicit in achieving this cut are described in detail in both the Josephine and Jackson-Klamath ESs, the Allowable Harvest Plans, and the Management Framework Plan.

53-1 Juxtaposed to these documents is the Draft Supplement, a glib and superficial document which attempts to justify raising the clearcut acres sixfold (from 9,000 to 55,300) with the rather blasé announcement that the impact of partial cutting and clearcutting "would not be significantly different than those addressed in the final EIS's." However, the Draft contains little analysis and less documentation to support this major change in treatment practice.

53-2 Furthermore, there is a major shift in partial cutting technique to remove all but 8-12 trees per acre. In fact, this represents a return to what the forestry books describe as the 'seed tree' cut--clearcutting by another name. In fact, the 17,300 acres of 'regeneration cut' that are planned should be analyzed as clearcuts rather than partial cuts.

53-3 There is no question that the shift from partial cutting to clearcutting is a major shift in treatment policy which significantly impacts the environment, and, more importantly, the calculation of the allowable cut. The government must realize that these major changes are documentable using your own records as well as current scientific opinion.

To attempt to tier this Draft Supplement to the existing EISs falters because the original Plan is no longer being carried out. The intensive management practices implicit in the original plan have never been fully implemented (especially 'site preparation predominantly with herbicides', and 'herbicide release of established plantations'); and, there has not been an annual allowable cut reduction which accurately reflects this lack of implementation.

53-4 Finally, the Draft Supplement represents the official abandonment of the Church Guidelines as adopted by the BLM in 1972. This is a major federal action taken by the Medford District, and must be analyzed and fully disclosed as such in order to satisfy the requirements of NEPA.

In summary, the legal implications of your deviation from the commitments made in the Josephine and Jackson-Klamath Environmental Statements, including the abandonment of the Church Guidelines, are not unknown to local citizens. The Draft Supplement is a hastily prepared document which attempts to give legal credence to a major shift in BLM's ongoing action. We submit that it won't stand up, and that the only legally appropriate action for the agency at this time is to return to the activity as described in the original ESs with appropriate reductions in the allowable cut to reflect the management practices that have not been implemented since 1978.

III. Questions and issues of importance.

During the course of the Crooked Cedar appeal, we have asked the Medford District Manager many questions which remain unanswered or unresolved. Every question is relevant to the issues of the BLM's fulfillment of NEPA and should be revealed in the public disclosure process.

1. In a letter of March 15, 1984 we asked:

> As we understand it, there should be a 13% annual reduction in the Medford District Allowable Cut for the duration of the 80's. What are the specific criteria you used to determine which particular acres will be withdrawn from the cut? If the District was given specific directives from the State office, we would like to be provided with a copy of those. If, on the other hand, the Medford District set the criteria for withdrawal, we would like to see those particular specs. **53-5**

This question is nine months old. We believe that Crooked Cedar is an excellent candidate for withdrawal for the 80's. We have been interested in the criteria so that we can understand why BLM has not included Crooked Cedar in the withdrawn acres.

2. According to the Josephine Environmental Statement, all sites will have timely site preparation, "predominantly with herbicides." In fact, 11.59MMBF has been added to the annual allowable cut as credit for growth assumed because of this practice.

53-6 We have asked in letters as well as at public meetings: What percentage of the lands in the allowable cut have been treated with alternative methods of site preparation during the past 2½ years when herbicides have not been available for use.

BLM answers to this question are varied and interesting: In a letter of November 8, 1983, regarding Crooked Cedar,

District Manager Hugh Shera states:

> ...the establishment of reforestation on the Crooked Cedar Timber Sale is not dependent upon the use of herbicides. Herbicides arenot mentioned in the EA. We are predicting that without herbicides, we will be able to achieve the minimum stocking level rather than to strive to attain the target level. The District has reduced its overall allowable cut by 12MMBF in Fiscal Year 1984 as a result of the court order disallowing the use of herbicides pending satisfactory compliance with NEPA. The loss of allowable cut is equated to a future loss in volume from commercial thinning foregone on stands achieving minimum stocking rather than target levels.

question a: If the establishment of reforestation on the Crooked Cedar timber sale is not dependent on the use of herbicides, why is herbicide use so dominant in the silivicultural prescription for the sale?

question b: The fact that "herbicides are not mentioned in the EA", makes it an instrument of deception rather than a public disclosure document of BLM site specific activity.

Would you include the silvicultural prescriptions as part of the EA information in the future in order to better inform the public of your plans?

question c: Recently, it was reported in a BLM newsrelease that 40% of the sales were being treated with alternative methods of site preparation.

As we understand it, there is a 12MMBF reduction in fiscal 84-85 allowable cut...

So, how do you explain why the reduction is so marginal when there is only 40% site preparation being accomplished, no herbicide release, and you have already used up your credit for commercial thinning?

question d: Allowable cut committments require reforestation to be established within 5 years after planting. The Draft Supplement (page 6) indicates that 84% stocking has been achieved on clear cuts and 78% stocking overall.

53-7 How much of these figures reflects a stand of established trees on 5 year old cuts?

Are these minimum or target levels?

How are you achieving this without intensive management practices?

3. In a letter dated 1/26/84 we asked District Manager, Hugh Shera, about discrepancies between the EA for Crooked Cedar and the timber sale plan.

The response:

> At the time when the environmental assessment (EA) is prepared, most of the acreage and volume figures are estimates. Actual acreage of cutting units is determined at the time of sale layout and volumes are determined the timber cruising procedure. Both of these procedures occur well after the EA is written.

53-8 This points again to the inadequacy of the EA as a public disclosure document. It can hardly qualify as a site specific evaluation if the specific site is subject to change.

At this time we would like to request that the EA be prepared for the specific site, the specific timber sale, and that major changes be evaluated in a supplemental EA?

4. We have asked the BLM to provide us with information regarding the number of acres of old growth in the Deer Creek watershed broken down into high and low intensity lands.

The response:

> The BLM will have to charge you $12.00 per hour for this calculation and it should take from 8-12 hours to complete, depending on what you want included.
> 10/14/84

Do you know the answer? How can you manage the resource if you don't have full knowledge of what the resource is? These are watershed issues, cumulative effect issues. NEPA requires a look at the total cumulative effects, past & present, of all BLM activity as well as other agencies and private individuals. Enlightened 'state of the art' forestry recognizes the need to save islands of old growth particularly in badly damaged drainages like Deer Creek (the extent of this damage is documented by your staff as well as forest service and other government agencies). You are not living up to your mandate to manage the land in an environmentally sound manner if there is not a discussion of the cumulative impacts of logging off the remaining old growth in a badly damaged drainage. We would like an answer to our question and we do not want to pay $12 per hour to have one. **53-9**

5. When Mr. Elbert Moore USEPA Region X visited Medford in February 1983 to view the Deer Creek Watershed, he specifically pointed to the need for water monitoring in our watershed. When we asked you to carry out a water monitoring program, Mr. Shera, we were told that you preferred to rely on the judgment of your staff. We would like to ask again that the BLM institute a water monitoring program along Crooks Creek and Deer Creek as well as other sub-drainages in our watershed. We don't feel that we should bear the financial burden of determining the impacts of your management activity on our water resource. **53-10**

We would also like to see published in the Final Supplement all the water monitoring information available in the Medford District for the past 5 years.

Thank you very much for your attention.

Sincerely,

Paula Downing

Paula Downing

54

Oregon Natural Resources Council
Main Office: 1161 Lincoln Street, Eugene, Oregon 97401 (503) 344-0675

Metro Office
Dekum Building, Suite 706
519 SW 3rd Avenue
Portland, Oregon 97204
(503) 224-0201

Eastern Oregon Field Office
Box 9
Prairie City, Oregon 97869
(503) 820-3714

December 20, 1984

Mr. Hugh Shera, District Manager
Bureau of Land Management
3040 Biddle Road
Madford, Oregon 97501

Dear Mr. Shars,

Below are our comments on the draft supplement to the Final Environmental Impact Statements (hereafter DSEIS) for the Josephine and Jackson-Klamath Ten-Year Timber Management Plans (October, 1984). Please include them in the official record.

1. ONRC is concerned about the attitude the Bureau has displayed in preparing this document. The stated purpose of the DSEIS is to address

> public controversy which has developed due to perceived differences betweeen existing timber harvest practices and those described in the axisting timber management plans. This supplement examines tha anvironmantal impacts of a proposed increase in the amount of clearcutting acreage with an associated decrease in shalterwood harvest... (DSEIS Introductory lattar, amphasis added)

54-1 The differences are far more than an apparent mispercaption by the public. Your district, by its own estimates, has clearcut 20,621 acres just 4.5 years into tha 10 year plans--plans which celled for no more than 9,000 acres of clearcuts during tha dacada. A 229% increase in one-half the time. If the public has a misperception, and indeed the epproved plans allow for this amount of clearcutting, parhaps tha BLM should have attempted to disabusa the public of their misperception, rather than preparing a DSEIS.

BLM is not proposing an incraase in clearcutting--rather it is attempting to to comply with tha National Environmental Policy Act (hereafter NEPA), ex post facto. Why wasn't a DSEIS issued when the District exceeded 9,000 acres clearcut?

54-2 2. Tha agancy has completely ignored the Church Clearcutting Guidelines which it adopted in tha Timber Managment Plans. If the District felt they were no longar appropriate, why wasn't a DSEIS issued at that time? Why now?

54-3 3. The Medford District has so violated its own Timber Management Plans, that by its own actions, it has negated these Plans. Tha FEIS's no longer ad-

54-4 dress actual on-the-ground conditions. The District has already exceeded the management plans' expectad environmental effects, such as soil, water and air quality impacts. So too, have wildlife and vegetation management practices been needlessly exceeded. Visual and aesthetic values have been steamroiled. What were thesa management plans for, if not to be followed? The intent of the plans have been lost completely. Unfornutately, these plans are now bogus. A totally new set EIS's should be prepered.

54-5 The public considered these management plans to be a covenant with the BLM. It expected BLM to do what it promised to do in tha plans. While the agency often has authority to change its course of actions, those changes must be considered under the National Envrionmental Policy Act, before thay occur, not after. The Medford District has violated its public trust by its blatent disregard for legal processes. The credibility of the Dietrict has been severely compromised.

54-6 4. In addition to these drastic on-the-ground changas, significant policy changes have also occured that require the preparation of new EIS'a. Herbicides were expected to be applied to 1,190 acres per yaar and an allowable cut credit was taken. Such applications are not being made, and cutting levela should be proportionally decreased. It is interesting to note that BLM is "proposing" more clearcutting--a practice that it believes increases the need for herbicides--at a time that it is enjoined from applying them. This proposed increase of the use of herbicides in this DSEIS seems to be contrary to the spirit of the judical rulings--prepare a worst case analysis and then decida if their application is still a good idea.

54-7 5. Other policy changes and significant public issues have arisen since completion of the original FEIS's in 1978-9 that point to a need to preapre totally new EIS's. Spotted owl management, declining timber values, e new agency intrepretation of tha O&C Lands Act of 1937 and other factors have changed dramatically sinca adoption of the original plans. In addition, the legal requirement to prepare Resourca Management Plans as required under the Federal Lands Policy and Mangement Act has existed since 1976 and the BLM has yet to comply on the Medford District, eight years later.

54-8 6. According to the BLM's own figuras, 14,228 acres of de facto clearcuts (intended shelterwood cuts) have created impacta which have not been considered. A DSEIS should consider the damage caused to the environment by these actions.

54-9 7. Not withstanding our position that new EIS's ara nacessary, ONRC contends that the DSEIS is legally inadequate. It offered no alternatives to the "proposed" change of action. There was no opportunity for public comment during its drafting, even though such input was specifically requested. It should have been a total supplement to address the various issues and reasons stated in point 4 and 5 above. These errors are claar violations of NEPA and ara vulnerable to court challenge. In fact, the DSEIS was written to cover the agency's violations, only after administrativa appeals were submitted to protest this 229% over-clearcutting.

54-10 8. Originally, two separate EIS's were issued for two separata management units. BLM has issued only one 18-page DSEIS and has averaged the data between the two. This averaging, violates NEPA's full disclosure requiraments,

54-10 by giving a misleading picture of the environmental impacts. They are not neglible, as the agency would have the public believe. The incremental demage per unit area goes unnoticed. For example, by comparing the averaging of site preparation and burning by BLM with our calculations of the yearly increases we find some amazing differences. The BLM's stated figures indicate an average 3.7% increase. Yet when we examined the yearly increases between the 1979-80 plans and the DSEIS, we found a 62% increase for the Josephine unit and a 130% increase for the Jackson/Klamath unit. This avarages to 96% increase and is substantially in excess of the 3.7% increase BLM is contending.

54-11 On checking further, we found that the DSEIS was comparing the de facto "present direction" (not the management plana's original direction) with the proposed directon. This so-called present direction is already 11,621 acres more than the original plans intended. In other words, the figures are atacked by using data that is already in violation of the management plans and is not using what is supposed to be the intended directon set forth in the mangement plans. By this method, you hava failed to analyze the environmental impacts of your past illegalities.

54-12 9. The analysis of wildlife impacts in the DSEIS imply that the only species of wildlife occuring on the Medford Diatrict are deer and elk. The failure to address the potential impact on other species, including federally-listed species under the Endangered Species Act is another omission of the DSEIS.

54-13 10. BLM should have made available, along with copies of the DSEIS, copies of the Final EIS's for the Josephine and Jackson-Klamath Master Units. Only in this way could tha public be expected to clearly understand the axtent and nature of the proposed change of action.

11. On Dacember 19, Mr. Marc Pravost, Southwest Field Coordinator for tha Oregon Natural Resources Council addressed the Medford District Multiple Use Advisory Council on the matter of this letter. Mr. Prevost spoke with the full authority of ONRC.

Thank you for this opportunity to comment. Would you please ansure that ONRC receives two copies of the Supplemental FEIS, if one ia preapred. Please send one to our Main Office (address above) and to Mr. Prevost at our Southwest Oregon Field Office (PO Box 638, Ashland 97520). By the way, Mr. Prevost has requested to be placed on certain mailing lists of the Medford District. He has yet to raceive any information. Please see that he is placed on the timber sale list, the land and rasourca management planning list, and the press release list. Thank you very much.

Sincerely,

Andy Kerr
Associate Director for Conservation & Education

AK/fu

55

TIMBER PRODUCTS CO.
POST OFFICE BOX 1669
MEDFORD, OREGON 97501
PHONE 503 773-6681

December 19, 1984

Al Larson, Enveronmental Coordinator
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97504

I have reviewed the draft of the Josephine-Jackson-Klamath Supplemental Environmental Impact Statement. (S.E.I.S.)

Timber Products Company supports sound forest resource management. The proposed change from shelterwood to clearcut harvesting, and the proposed change in basal area remaining on future shelterwood units is the conclusion of years of professional research conducted by F.I.R., O.S.U., and the B.L.M.. The Medford district should be commended for their proposal to incorporate these findings into actual management practices.

Timber Products Company supports the S.E.I.S. because it adequately describes the impacts expected by the change from shelterwood to clearcut harvesting, and that the single entry concept of clearcut harvesting can only lessen the environmental impact.

55-1 I noted a failure to address the economic benefits of clearcutting. I feel that it is appropriate to mention these benefits as part of the impact analysis.

Finally to avoid potential lawsuits on the S.E.I.S. and to keep the resourse management in the hands of the professional's, rather than in the courts, I urge that the B.L.M. make certain that the legal armor platting is adequate to withstand any and all attacks on it.

Thank you for the opportunity to make my comments, and for your consideration of them.

Yours truly,

Duane Crites,
Timber Manager

AN EQUAL OPPORTUNITY EMPLOYER

56

28 Valley View Dr.
Medford, OR 97504
December 19, 1984

Al Larson, Planning and Environmental Coordinator
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Dear Mr. Larson:

I have attended the public hearing, read the supplemental EIS and talked to a number of BLM personnel concerning the change in the Josephine/Jackson-Klamathe Timber Management Plan toward more clearcut and less shelterwood cutting. Our investigations show nothing wrong with the basic premise that clear cutting will allow better stocking of new trees than under the shelterwood system. However, we take issue with the BLM in three critical areas:

56-1 1) There seems to be big jumps in logic when BLM officials at the public hearing state that much of the shelterwood acreage in the past (20 years+) has failed to do the job of reforestation. If this is so, why hasn't the annual allowable cut been lowered in these sustained yield units? I think the public is being deceived again. If your inventory plot data doesn't show the appropiate decrease in growth, then either the shelterwood cuts of the past have not failed or the BLM is not getting adequate information from inventory plots.

56-2 2) The Supplemental EIS has a strong bias toward a timber mining policy while paying lip service to actual forest management and multiple use. (see page 1 - "Environmental consequenses") You failed to mention that clearcutting on steep slopes exposes soil to more erosion and more slash burning will increase air particulates. It's axiomatic that water yields are greater in clearcuts because large snowpacks accumulate there while more winter evaporation takes place in the needles of trees. This leads to large quick run-off of water in the Spring and the greater likelihood of downstream erosion and flooding.

56-3 3) The BLM has lost credibility with the public because of the Headwaters law suit. They have violated their own 10 year timber management plan without informing the public, whose lands they manage, of such a significant policy change. One wonders if they would have bothered to make this known if Headwaters hadn't filed suit.

56-4 A question not answered in the supplemental EIS: will undesirable species compete successfuly with reforested conifors more in clearcuts than in the shelterwood system? If so, what affect will this have on the growth loss and the impact on the allowable cut?

Sincerely yours,

David E. Erion

David Erion, Conservation chair
Rogue Group Sierra Club

57

Timber and Wood Products Group

Boise Cascade

Western Oregon Area
P.O. Box 100
Medford, Oregon 97501
503/776-6666

December 20, 1984

Hugh Shera
District Manager
Bureau of Land Management
3040 Biddle Road
Medford, OR. 97504

Dear Mr. Shera:

Thank you for sending us a copy of the Draft "Josephine/Jackson-Klamath Timber Management Supplemental Environmental Impact Statement", along with a request for comments. We are a major supplier of jobs and taxes to the local area. We are vitally interested in maintaining a continuous sustainable timber supply. This supply cannot be maintained without successful forest regeneration following harvesting. The appropriate use of clear cutting followed by artificial regeneration as proposed in this draft is often the most effective method to meet this goal.

We have studied this document, taken a field trip with Al Abee of your office, and have considerable experience in our organization with forest land reforestation. From this review we offer the following comments:

1) The forestry profession, the timber industry, and the federal government have tried various forms of partial cutting of Douglas-fir for over three decades in Southern Oregon with only limited natural regeneration success. Partial cutting may sound good on paper, in places it has worked, but as a broad application to replace artificial regeneration it is not responsible land management. We feel even-aged management of Douglas-fir with artificial regeneration (planting) is necessary for consistent results. We support the reforestation strategy proposed by the BLM in this document.

2) Oregon State University Forestry Intensified Research (FIR) studies, and BLM operational plantings in the China Gulch area support numerous other research studies which show that planting of Douglas-fir is successful when done properly. Our own land management experience strongly supports their findings. Our company has been strong supporters of FIR. We are encouraged that the BLM uses FIR research and their own studies to refine their day to day operations. There should be no question of the feasibility of even-aged management of Douglas-fir through clear cutting followed with artificial regeneration on Southern Oregon Douglas-fir sites.

3) We support your findings that the adverse impacts to water quality and soils will be lower with this proposed decision and wish to emphasize that adverse impacts as a result of slash burning are even less than stated. The BLM, USFS, and private industry all either support or are required to follow the smoke management plan administered by the Oregon State Department of Forestry. This plan does not allow burning when the smoke from slash burns will collect in designated areas such as Medford. Burning can only occur when the smoke will be quickly dispersed by predictable wind patterns. Without controlled burning, slash accumulation in the woods will increase. If a wild fire were to start under stable air conditions, it is possible for smoke to settle into the Rogue Valley and cause health problems for some people. Controlled slash burns will reduce the possibility of this happening. With this in mind, environmental impacts do not seem to us to be an issue in the proposed decision.

4) Even-aged management of Douglas-fir is dictated by the growth requirements of the tree. Visual impacts will result whether the BLM clear cuts or uses the shelterwood system. When the overstory is finally removed, the visual impact will be a clear cut. The best way to mitigate visual impacts is through prompt effective regeneration. The BLM plants under their shelterwoods as a matter of policy. These shelterwoods are removed two to three years following planting. A unit with two to three year old seedlings will look just about the same as a clear cut following overstory removal. If the shelterwood system is not absolutely necessary for seedling survival, often the result of this system may actually be logging damage to planted seedlings causing a delayed regeneration process, a longer visual impact, and guaranteed higher logging and reforestation costs. We do not see visual impacts as an issue in this decision; they are a result of even-aged management and decrease if anything as a result of this decision.

There are visual impacts to adjacent landowners. We have observed the BLM making very special considerations to local landowners to minimize these impacts. As an example buffer strips are often left behind. The general public foregoes this revenue for benefit of the individual. The individual does not pay for this special consideration. It may not be completely equitable, but it occurs.

We hope our comments are useful, and we encourage the BLM to get on with the change proposed in this draft and the continued wise use and management of Douglas-fir timber types under their control. Please thank Al Abee for the time he took to show us the field impacts of this proposed BLM decision.

Very truly yours,

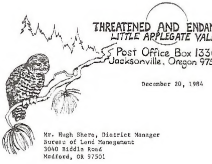
BOISE CASCADE CORPORATION

Russell J. McKinley

Russell J. McKinley
Chief Forester

RJM:vm

cc: Jim Weathers
Jerry Barnes -
Jackson County Commissioner
Al Abee - BLM
File



THREATENED AND ENDANGERED
LITTLE APPLEGATE VALLEY
Post Office Box 1330
Jacksonville, Oregon 97530

58

December 20, 1984

Mr. Hugh Shera, District Manager
Bureau of Land Management
3040 Biddle Road
Medford, OR 97501

Dear Mr. Shera:

Re: Draft Supplement Timber Management Environmental Impact Statement

The Draft Supplement to the EISs has been heralded as addressing "public controversy which has developed due to perceived differences between existing timber harvest practices and those analyzed" in the EISs. Since TELAV is one of the organizations which raised some of the issues in question we are quite frankly surprised that you did not attempt to clarify these differences with us earlier if they were only "perceived."

58-1 The Draft Supplement does not address all of our concerns. We believe the allowable cut in the Medford District is far higher than can be sustained, and that this allowable cut is predicated on intensive management techniques which are not being accomplished. We are afraid that the present emphasis on maximum timber production is at the expense of other, and possibly more fragile resources whose real value has not been assessed. Until the District prepares a Resource Management Plan which comprehensively assesses their value, all non-timber resources are at risk of permanent degradation.

We have done an extensive examination of the issues raised by the DSEIS. Our comments are attached.

Sincerely,

Diane Albrechtsen

Diane Albrechtsen
President

Genevieve Windsor
Vice President

cc: Headwaters, Inc.

The Proposed Action

1. Tiering

The existing Timber Management EISs examine the impacts of the proposals to harvest annually 103 MM bd.ft. and 120 MM bd.ft. respectively, from the Josephine and Jackson-Klamath SYUs. Treatments "implicit" to the proposals "include road construction, harvest employing predominantly shelterwood systems with some clearcutting, slash disposal, site preparations predominately with herbicides, planting of trees, herbicide release of established plantations, precommercial thinning, fertilization, and commercial thinning." [JEIS, p.iii]

58-2 The decision to tier the DSEIS to the existing EISs was presumably made because the BLM feels the proposed changes are of lesser scope than the original action. The CEQ regulations under which this is appropriate assume that the original action or proposal is being implemented. However, the management assumptions implicit to the Josephine and Jackson-Klamath Timber Management Environmental Statements have *not* been fully implemented.

58-3 Allowable cut credits are being taken for management practices of questionable validity, and for others which have not been fully utilized. Two examples are thinning and fertilization, for which extra growth credits (36% and 22% respectively) have been taken. At this time, five years and four years into the ten-year TMPs, the District is 75% short of the thinning goal and has accomplished only 35% of the fertilization. Furthermore, BLM Medford still has not produced any studies of its own to support its belief that the growth increases attributed to fertilization will occur here. The studies which have been done were on forests with vastly different climatic conditions.

Timber management activities, as practiced in both the SYUs of the Medford District, are not those examined in the existing EISs. The DSEIS can neither be tiered to nor amend documents which do not accurately reflect the current action. Either the management practices implicit to the EISs must be implemented, or the allowable cut must be recomputed and incorporated into the DSEIS.

2. Clearcutting on Federal Timberlands (1972 Senate Subcommittee report)

58-4 The BLM has adopted as policy the guidelines for timber management contained in what is familiarly called the "Church Guidelines on Clearcutting." (CGC) If the Medford District is adhering to the CGC, it should be able to give an unqualified affirmative answer to the following questions.

Have increases in allowable harvests based on intensified management activities been made only upon demonstration that such practices justify increased allowable harvests? Is there assurance that such practices are satisfactorily funded for continuation to completion?

Has the allowable harvest been reduced when planned intensive measures have not been adequately funded and, therefore, accomplished on schedule?

58-4 Is clearcutting being done where soil, slope or other watershed conditions are fragile and subject to major injury?

Is clearcutting being done where there is no assurance that the area can be adequately restocked within five years after harvest?

Is clearcutting being done where aesthetic values outweigh other considerations?

Is clearcutting being used only because it will give the greatest dollar return or the greatest unit output?

Are the sizes of clearcut blocks, patches or strips being kept at the minimum necessary to accomplish silvicultural and other multiple-use forest management objectives?

Are clearcut blocks, patches or strips in all cases, shaped and blended as much as possible with the natural terrain?

Do District timber sale contracts contain requirements to assure that all possible measures have been taken to minimize or avoid adverse environmental impacts of timber harvesting even if such measures result in lower net returns to the Treasury?

Any of these questions to which the District cannot give an unqualified "Yes" represents a departure from the Church Guidelines on Clearcutting. TELAV states firmly that at least half of the stated guidelines are not being adhered to by BLM Medford. Is this policy of abandonment of the CGC at the District, State, or Federal level? When were the CGC abandoned at that level?

3. Low and Limited Intensity Management Lands

The DSEIS purports to analyze the environmental impacts of a "proposed increase in the amount of clearcutting acreage with an associated decrease in shelterwood harvest and of a proposed shift from basal area removed to trees per acre left after the first entry of a shelterwood regime."

The DSEIS, however, also unannouncedly amends the EISs with this radical proposal on page 4: "Low intensity and limited management lands . . . comprise the land base for the trial harvest program. Under the proposed action, clearcutting or two-stage shelterwood cutting can be prescribed on these lands as determined by research study plans."

58-5 The existing EISs are both adamant that clearcutting will not occur on low intensity land: "Due to the harsh site conditions, clearcutting would probably convert such areas to non-commercial forest classification." [JEIS, p.1-6 and JKEIS, p.1-24] And in neither of the existing EISs is the proposal made for *any* harvest from *limited* intensity lands!

What new studies support the proposal to clearcut low intensity lands? to harvest limited intensity lands? In what document have the impacts of these proposals been evaluated?

4. Clearcut

58-6 The DSEIS states: "Technological advances in silviculture, logging system engineering, and timber sale planning indicate that reforestation to approved stocking standards can be effectively achieved on most sites through clearcutting." And later, "The state-of-the-art information has improved the foresters' ability to predict and achieve successful regeneration on stands originally considered not suitable for regeneration after clearcutting." How have these advances changed the site characteristics? How long ago was "originally"? Less than ten years ago an extensive analysis of both SYUs resulted in 16% (Jackson-Klamath) and 26% (Josephine) of the high intensity land being judged "suitable for clearcut harvest techniques." What percentage of the high intensity land base is *now* deemed suitable for clearcutting? What evidence is there which indicates that by improving only one factor of the five essential requirements for reforestation you will achieve 100% success?

58-7 In the CGC the ability to achieve "adequate stocking within five years of harvest" is only *one* of the requirements in the decision to clearcut. Yet it is apparent, from information provided in the DSEIS and at public meetings, that successful reforestation is now the sole criterion in determining if clearcutting is to be used. Are you using other criteria when deciding whether to clearcut or shelterwood cut a particular unit? If so, what criteria?

58-8 There is ample evidence in BLM's records that "stocking" does not necessarily equate with reforestation success. A unit can be stocked as fast as it can be planted (and seedlings can die almost as quickly). True success is measured when the stand is approximately 40 years of age, for it is at this time that the BLM Manual requires "target" levels of stocking in order to commercially thin. How is the Medford District's claimed "78% stocking success" measured? How old are the units? How many plantings did it take to achieve this? Over how long a period of time has this success been measured?

58-9 One of the rationales for clearcutting the overstocked previous entry shelterwoods is the "type of logging system required." Yet previously, "technological advances in logging system engineering" is offerred as the justification for increased clearcutting. Can these same advances not be applied to the overstocked previous entry shelterwoods? Why is it necessary to harvest these acres before the rotation age of the understory?

58-10 Another reason given for clearcutting some of the failed shelterwoods is "steep slopes." How can reforestation success be guaranteed when regeneration data indicates that the steeper the slope the greater the seedling mortality? How will competing vegetation be controlled?

58-11 The DSEIS states: "Shelterwood harvesting is often not appropriate on some sites because of high defect, low volume per acre, and low production rates per day due to harvesting only a portion of the stand." Leaving aside the fact that this is in direct violation of the CGC, you are implying that some portion of the "high intensity" lands have fewer than 16 merchantable trees per acre. How many acres are in this condition? Could such poor stocking be an indication of extremely poor site conditions?

5. Shelterwood

58-12 In the DSEIS one of the conditions which "favors" shelterwood systems is, "Areas designated to preserve other resource values (e.g. visual resources and riparian habitat). How will leaving 8-12 trees per acre for 3-5 years "preserve" other resource values? What assured protection will streams have under the new proposal? Are there riparian habitats and visual resources whose value will be protected by *no* harvest?

6. Trees Left Per Acre

BLM Medford silviculturists have repeatedly stressed that the number (8-12) and distribution of leave trees, rather than remaining stand basal area, determine seedling survival following a regeneration cut. Recommendations from foresters in other districts where this system has been in use for some years indicate that other critical management techniques are necessary to insure success:

> "Leave trees should be windfirm codominates, not wolf trees. Trees with good 50% minimum crowns about 30 inches or less DBH are most desirable. Plan to leave about 80 BA/acre... Favor thick bark species such as old growth Douglas-fir, sugar pine, ponderosa pine, and Incense-cedar as leave trees. Other species and Douglas-fir less than 20 inches in diameter (relates to bark thickness), don't survive the under burning frequently enough to be of use as shade leave trees."

58-13 If a unit does not meet these critical requirements, what alternatives remain for the silviculturist? Why are the other requirements such as crown size and diameter apparently being ignored by this District? What data does the District have on windthrow in these units?

58-14 On more than one occasion the Medford District Silviculturist has stated that there is no constraint on the size of the logging units proposed for the new shelterwood cut. We quote again the foresters with experience in this type of cut:

> "Don't make two step shelterwood sales larger than the allowable size of clear-cuts because the negative impacts on other resources is essentially the same as a clear-cut."

What new data supports your decision to ignore this clear statement from experienced foresters? The report from which this is quoted was supplied by BLM Medford as justification for leaving only 8-12 trees per acre in regeneration cuts. What new studies demonstrate conclusively that the negative impacts of leaving only 8-12 trees per acre are less than those of clearcutting?

Impacts of Proposed Action

58-15 It is misleading to *average* the environmental impacts of the proposed action over the whole of the Medford District, particularly when neither of the existing EISs does this. It must be kept in mind that the DSEIS is supplementing *two* environmental documents covering *two* sustained yield units, each of which encompasses well over 400,000 acres.

58-15 An example of how misleading it can be to average the impacts is the statement that "a 19 percent reduction in road construction would result in an equal reduction in erosion and loss of soil productivity." Whether or not this is true, the reduced impacts would not be shared equally by the two SYUs: The reduction is 28 percent in Josephine, but only 7 percent in Jackson-Klamath. The estimated "11 percent reduction" in acres to be yarded is expected to result in an equal reduction in erosion and soils productivity. Yet once again, the impacts are not distributed equally between the SYUs: Josephine is expected to have a 16 percent reduction in yarding, Jackson-Klamath only 6 percent.

58-16 Further, the same volume of timber is to be harvested from 9,000 (Josephine) and 3,700 (Jackson-Klamath) fewer acres. Surely this will produce increased impacts from yarding on the acres which will be logged. This in turn will produce increased soil erosion and loss of soil productivity on the affected areas. Why does the DSEIS consistently fail to address the site-specific negative impacts of the proposal?

58-17 We question the assumption that the yarding systems mix would not change. The harvesting mix is undergoing a drastic change, and you propose clearcutting where shelterwood harvesting is "not appropriate" due to "low production rates per day." Can you truly maintain that the yarding systems mix will not change in the face of these changes? Why was an updated Table 3-3 (J-KEIS) not prepared? A glaring omission from the DSEIS are tables for each SYU comparable to tables 3-1, 3-2, 3-3, 3-4, and 3-7 in the J-KEIS. The EISs include maps of proposed timber sales. Why is a revised map not included with the DSEIS?

58-18 Having examined in detail the data used to derive the "slightly greater" increase in water yield, we have reason to question all the impacts figures in the DSEIS. As can be seen from table 3-4 of the J-KEIS, clearcutting increases water yield 40 percent, while shelterwood harvesting increases water yield 25 percent. These multiples are derived from Harr, who was measuring the impacts of shelterwood harvests with 50 percent of the stand basal area removed in the regeneration cut. In preparing the DSEIS, 34 percent was used as the multiple for the new regeneration cut. On what data is this based? If there is no data to support the assumption of 34 percent increase in water yield in the proposed shelterwood harvest method, why was the worst not assumed, that the impacts will be comparable to those of clearcutting?

58-19 We assumed that the foresters who have had the longest experience with the radical regeneration cuts were correct when they stated that the negative impacts on other resources are essentially the same as a clear-cut. On this assumption, we recomputed the water yield tables using a 40 percent multiple for the shelterwood harvest acres. The results are extremely distressing, for they indicate that even with the reduction in road building, the water yield increases on the affected acres will be 43 percent (JSYU) and 44 percent (J-KSYU) higher than those of the current TMP.

58-20 These increases will occur on the watersheds of the 106,300 treated acres, and will impact the streams and rivers they supply. It may be correct to assume the area of the Jackson-Klamath SYU at 1,398,042 acres when addressing air quality, but we believe it is misleading to do so when measuring increases in water yield.

58-21 An omission from the DSEIS which we would like to see corrected is specific protection for streams. Under the proposal, the timber specialists have a mandate to remove all, or nearly all of the forest canopy in every unit selected to be part of a timber sale. Under these conditions, how feasible is it going to be for the other resource specialists to protect non-timber values in the sale areas? Every Class I and Class II stream is fed by innumerable Class III and IV streams. To degrade the latter is to degrade the former. What protection do streams have under the proposed action?

58-22 When will the impacts specific to a given watershed be addressed? When will BLM Medford also add to the impacts of its proposal (preferably in a form that can be easily understood) the other actions, federal, state, and private, which affect a given watershed? The cumulative impacts are nowhere addressed.

58-23 The dollar value of tourism is growing. Figures indicate that Grants Pass, Medford and Ashland together will receive more than $60,000,000 from tourists during 1984. Tourists polled by the Visitors Bureau listed the "beautiful scenery" as their primary reason for visiting this area. By 1990 over 101,000 acres in the Medford District will be visually denuded, and an additional 5,000 acres will have only 8-12 trees per acre remaining.

Again, until a Resource Management Plan is completed, it is our belief that the real value of the other resources of the District will neither be known nor taken seriously.

Myron Cre[illegible]
P.O. Box 270
Applegate, OR. 97530

12/18/84

59

Attention Mike Walker,

Your approach to timber management is very faulty. [illegible] you can burn any remaining slash, [illegible] area has been logged, & stand to gain anything more than a little potash, easier access to the unit for reforestation purposes & [illegible] pollution of our air./Since 99% of all the organic matter gets trucked to the mill, we need to use the remaining, (1% of original supply), organic matter wisely. The soil [illegible] on a costant supply of decomposing organic material to maintain a healthy soil structure & an abundance of available plant nutrients. Soil abundant in organic matter are [illegible] susceptible to erosion problems than soils [illegible] in organic matter because of their ability to absorb & retain larger quantities of moisture. The abundance of organic matter in soil also moderates high & low soil temperatures of Summer & Winter seasons. 59-1

When is a prescribed burn acceptable? Only in two situations, disease & or pest infestations. These two situations also bring to mind, clearcuts.

59-2 When is a clearcut an acceptable method of forest management? There are only three situations to which this method could apply, in areas where disease & or pest infestations are present, & areas where timber has been burned or severely injured by forest fire.

New logging methods must be [illegible]. The methods currently being used cause excessive damage to the forest floor, surrounding vegetation & wildlife habitat. Emphasis must be placed on researching new less damaging methods of skidding timber. Full suspension yarding would be something to consider [illegible]. It is time we start harvesting our forest products without threatening the health & existence of our forests ~~in~~ doing so.

The sooner new logging techniques, that can remove the timber products from the forest without damaging it, are used, the sooner some other problems can be corrected. This would: eliminate the need for artificial stocking of trees; make possible higher selection harvesting methods (harvest only when trees growth rate reaches point of diminishing returns); eliminate the need for artificial fertilizers; maintain acceptable wildlife habitat; protect riparian areas; keep brush & grasses from taking over the site because it is unsuitable for healthy tree growth; eliminate erosion due to damages cause by skidding; eliminate all clearcutting, except in the instances I mentioned previously; eliminate damages do to overstory removal; eliminate any need for even-aged management sites.

64

12/20/84

ACT INFO INITIAL
DEC 31 1984

Dear Mr. Walker,

It has come to my attention that the BLM agency is going to increase the number of acreage to be __clear cut__.

I definitely dis-agree to this policy because of the ugliness of the practice and the mountain soil erosion, also at this time we are in a recession, as we probably know & do not need to up the production but have a slowing down of production or at the most keep the timber cutting on an even keel, no upping of __out put__.

Another policy of Watts drove me up the wall when I thought our American land was to be* sold to the rich and probably Ronald Regan and Meece's friends what a poor way to go — selling off valuable land that could be saved for future generations.

Americans that are in politics in my estimation are ding-a-lings.*

Please pass these ideas on to the Bureau of Interior

* They want to sell our heritage.

Sincerely,
Roeder

Mrs. Don Roeder
5827 Valley Court
Klamath Falls, Ore 97603

Earth First!

65

TO: BUREAU OF LAND MANAGEMENT

RE: JOSEPHINE/JACKSON-KLAMATH TIMBER MANAGEMENT S.E.I.S.

The prepared (S.E.I.S.) document does not address the purposes of N.E.P.A., namely the assessing of enviromental impacts of proposed agency actions. To the contrary, this draft is merely a feeble attempt to justify covert criminal action undertaken by an outlaw, and out-of-control agency. In the 5 years since the 10-year T.M.P's was filed the Medford B.L.M. has ignored the planned action and proceeded to implement action of its own whim.

Further the supplement lacks even rudimentary documentation of impacts due to the change in action. Instead the reader is treated to a host of sweeping generalities

65-1 that are unsubstantiated and/or not site-specific. For example wildlife, referred to in the S.E.I.S. under the technical term Animals, addressed a total of two species in one family both of which have somewhat similar habitat requirements. The subject of the first cited reference is a completely different subspecies then occurs locally, different in both habitat and habit. The second paragraph is a complete non sequitur, use would peak in six to eight years, so? Is it the contention of the Bureau that there is currently a shortage of available forage? If so the halt in herbicide applications was a truly fortuitous event.

From this the conclusion is __reached__ that there is no significant adverse impact. There is no discussion

of the effects of reduced basal area.
No mention of preadators, birds, other
vertebrates, reduction in vertical diversity.
65-1 What is the possible impact of reduced
mature conifer populations in a localized
area on the habitat? What effect on T. & E.
fauna? A Black-tailed deer is hardly
the most exacting species in terms of
habitat requirements. Where are cumulative
65-2 effects considered?

If "operational experience" is any
indicator it is that the B.L.M. is incapable
of shelterwood or any forest management
and these lands should be immediately
transferred to the U.S. Forest Service.

Steve Marsden
STEVE MARSDEN
EARTH FIRST! 6166 MONUMENT
GRANTS PASS, OR
97526

DTO DOUGLAS TIMBER OPERATORS, INC.

66

December 19, 1984

Mr. Hugh Shera, District Manager
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Dear Mr. Shera:

Douglas Timber Operators, Inc. appreciates the opportunity to comment on the Josephine/Jackson-Klamath Timber Management Plan Draft Supplemental Environmental Impact Statement (DSEIS). DTO is a regional association representing over 40 firms in southwestern Oregon. Our members range in size from large forest product manufacturers to small independent loggers, road builders and retailers. All of our members share a substantial dependence on public timber supplies, a portion of which comes from the Medford District. Therefore, our interest in the planning process is accute.

As we see it, the purpose of the DSEIS is to update your 10-year timber management plan. This update was due to acquiring increased knowledge of the silvicultural aspects of the management plan. In addition to the expertise gained through localized research projects (F.I.R.), your own practical applications have provided enough evidence to require a change in direction.

Although, to the uninformed, changing from a shelterwood emphasis to a clearcut strategy may be thought of as a step backward. However, we feel the failures of the shelterwood system warrant the change. It is clear, the most successful and most efficient regeneration of Douglas-fir stands will occur under a clearcut regime. It is unfortunate that the shelterwood system was previously implemented. We have lost valuable time in converting older, slower growing stands to young vigorous second growth.

One of the most encouraging aspects of the DSEIS is that with the new emphasis on clearcutting, environmental impacts will be reduced. By concentrating harvest in a smaller area, less acres will need to be utilized each year. In turn, less road construction will be required to access these fewer acres. One would think that local environmental groups would be delighted that you have chosen an option which will reduce impacts. Obviously, they have other motives in mind.

Suite 222, Pacific Building • 727 S.E. Cass Avenue • Roseburg, Oregon 97470 • (503) 672-0757

66-1 The adoption of the DSEIS will also have a significant economic affect on the area. Shelterwood harvesting is costly from a preparation, logging and administration point of view. Clearcut timber sales have lower logging costs, therefore the B.L.M. receive a higher stampage value. Thus, the local communities will benefit economically through the O and C Counties 50% share of B.L.M. timber receipts.

In conclusion, DTO strongly endorses the DSEIS and commends you for taking this action. We are looking forward to similiar revisions in your Timber Management Plan when you've determined that the F.I.R. results justify returning lands back to the intensive management base.

Thank you for the opportunity to comment on this important issue.

Sincerely,

DOUGLAS TIMBER OPERATORS, INC.

Ralph Saperstein
Ralph Saperstein
Executive Director

RS/lt

cc: DTO Sterring Committee
DTO Working Committee
Sue Joerger, S.O.T.I.A.

MEDFORD CORPORATION

67

December 21, 1984

Al Larson
Planning and Environmental Coordinator
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Dear Sir:

I have read your draft Josephine/Jackson-Klamath Timber Management Supplemental Environmental Impact Statement and find the document adequately addresses environmental concerns.

67-1 The change from heavy dependancy on shelterwood regeneration to a mix with clearcutting is not only good forestry but also makes good economic sense. BLM foresters are responding to their own experience and research by F.I.R. that regeneration can be obtained on a consistent basis. As a result regeneration costs have been reduced.

The draft does not discuss the economic impacts. I feel that this should be addressed in the final statement.

Thank you for the opportunity to make comments.

Sincerely,

Bruno C. Meyer
Head Forester
MEDFORD RESOURCES CORP.

BCM/meb

68

BLM Medford District Office
3040 Biddle Rd.
Medford, Ore 97504

Subject; Clear cutting on BLM lands

As a long time back packer, day hiker and enjoying other aspects of our forests I am opposed to clear cutting in most cases. I am sure there are places that I am unaware of where clear cutting might be advisable. But for most ~~times~~ places. I am against clear cutting.

Yours truly,
Ruth Leonard
1965 Archer Dr.
Medford, Ore. 97501

69

December 19, 1984
210 S. Marble Drive
Grants Pass, Or 97526

Al Larson
Bureau of Land Management
3040 Biddle Road
Medford, Or 97504

Re: Josephine/Jackson-Klamath Timber Management Supplemental Environmental Impact Statement (SEIS)

As a local resident concerned about community stability, employment, taxes, schools, and other vital community services, I agree with your proposed action defined in your Draft Supplemental Environmental Impact Statement concerning clear cutting.

69-1 It appears that the economic savings in road building alone dictates implementation as soon as possible.

I was disappointed that your Draft did not more clearly address the real dollars saved by your proposal. Also frustrating to me is why weren't we practicing this harvest method much sooner if it is sound forest practice and can be accomplished more efficiently? The local governments and taxpayers will surely appreciate anything you can do that will enhance maximum economic returns along with good forestry.

Sincerely,

Don W. Johnson

---

50 YEARS OF FORESTRY LEADERSHIP
1934 1984

INDUSTRIAL FORESTRY ASSOCIATION
2680 N. Pacific Hwy.
Medford, Oregon 97501
(503) 773-5329

70

December 21, 1984

Hugh Shera
District Manager
BLM-Medford District
3040 Biddle Road
Medford, OR 97501

Dear Hugh:

On behalf of the Industrial Forestry Association, I would like to offer the following response on the adequacy of the Draft Supplemental to the final EIS's for the Josephine and Jackson-Klamath Timber Management Plans.

I have read the supplemental EIS document and have spent many hours listening to explanations by BLM specialists in an attempt to fully understand the draft supplement proposal. I now have a better understanding of the prior history and the current situation relating to management of forest lands on the Medford District. Based on this accumulated understanding, I now fully support the implementation of the Draft Supplement proposals. It is my belief that better forest land management will be achieved, better environmental protection will result, and additional social and economic benefits can be obtained if the proposed action is implemented.

70-1 I must say, however, I am greatly dismayed over what I consider the inadequacy of the draft supplement to fully explain professional reasoning behind the proposed action. A better explanation of social, economic and environmental benefits is also needed. I realize NEPA only requires a government agency to discuss the negative aspects of a proposed action in an environmental statement, however, I think you owe it to the public to present a full disclosure of the benefits side as well. There aren't many people around that will support an action if they are only aware of the negative aspects. In fact, that is the way groups like ONRC, TREES and Headwaters are able to fan the flames of controversy so effectively. Their membership is uninformed on forest management issues and are easily swayed by the deliberate one sided arguments of the group leadership. Untruths, half truths an inuendo are easily swallowed by an uninformed public. Without

SERVING FOREST OWNERS, LOGGERS, WOOD USERS THROUGHOUT THE DOUGLAS FIR REGION

full presentation of both sides of a proposed action, even the newspapers and other media are left with only the negative side to report.

If presentation of additional background information and benefits data is cumbersome or illegal in an Environmental Impact Statement, I would then suggest publication of a companion document to be presented in conjunction with the EIS. In today's world of public participation in technical, resource management decisions, it is imperative the whole picture be presented.

I have a few additional concerns which I would like to see addressed in the Final SEIS.

70-2 1. I would like to see inclusion in the FEIS of the chart used by Al Ahee to outline Acres anticipated, proposed and accomplished. Its inclusion would enhance understanding of what has happened and what is expected to happen under the proposed action.

70-3 2. I would like to see an explanation of why results from clearcutting today can be expected to be greatly improved over past experiences. A full understanding of all the improved aspects of today's clearcut will be necessary before the general public will ever accept the use of this extremely necessary forest management tool.

70-4 3. I think the explanation of Air Quality impacts on page 8 is very weak. A simple increase or decrease in particulate emission is not necessarily harmful or beneficial. What is important is what happens to the particulates after their release into the airshed. An explanation of BLM and State of Oregon smoke management requirements would be useful in describing what real impacts might be expected under the proposed action.

70-5 4. The description of impacts to soil productivity (page 9) appears incorrect to me. If it is correct, you should change some of your burning prescriptions. Slash burning, using today's improved techniques, should not reduce soil productivity.

70-6 5. I think inclusion of a description of all types of land under BLM administration on the Medford District would also be informative. Many of the general public are still unaware that the proposed action will only affect existing designated commerical forest land. Many of the public are unaware that no changes are proposed for riparian areas, visual zones, fragile soil sites, etc. A description and acreage listing of protected and withdrawn lands would help to better describe the overall impacts of the proposed action.

Thank you for the opportunity to comment on the draft SEIS.

Sincerely,

Richard H. Felgenhour
Richard H. Felgenhour
District Forester

RHF:lrm

ASSOCIATION OF O & C COUNTIES

71

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December 18, 1984

Mr. Al Larson
Planning & Environmental Coordinator
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97504

Dear Mr. Larson:

Re: Josephine/Jackson - Klamath Timber
Management - Draft Supplemental
Environmental Impact Statement

The Association of O&C Counties (the Association) has reviewed the draft supplemental environmental impact statement (EIS) and would like to comment on its sufficiency. The Association is composed of the 18 Oregon counties in which the O&C lands are located. Because of the unique funding formula applied to O&C lands, the counties comprising the Association have a substantial interest in forest management on O&C lands. The Association, therefore, is interested in any decisions regarding the draft supplemental EIS.

The Association has reviewed the draft supplemental EIS to determine its sufficiency under the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) Guidelines. The Association also reviewed the draft to determine its sufficiency in addressing recent claims made by environmental groups in appeals before the Interior Board of Land Appeals. The Association has three concerns which are discussed below.

71-1 1. Church Guidelines. The draft supplemental EIS should address whether the current proposed program complies with the Church Guidelines on clearcutting. Although the BLM is not formally bound by the Church Guidelines, the two original EIS's included the Church Guidelines as objectives and policies. *Josephine Final EIS at 1-4*; *Jackson Klamath Final EIS at 1-4*. The draft supplemental EIS discusses changes in clearcutting practices which may or may not be consistent with the Church Guidelines. If the BLM believes that the proposed increases in clearcut acreage are consistent with the Church Guidelines, the draft supplemental EIS should so state and the conclusion should be substantiated. On the other hand, if the proposed increases in clearcut acreage are not consistent with the Church Guidelines, the draft supplemental EIS should specifically amend the objectives and policies included in the original EIS's and should state the reasons for this change.

71-2 2. Alternatives. The draft supplemental EIS should clearly address alternatives available to the BLM with respect to clearcutting. The CEQ Guidelines require a supplemental EIS to include a comparison of alterntaives, just as is required in any EIS. The comparison must be sufficient to provide "a clear basis for choice among options by the decision maker and the public." 40 CFR § 1502.14. Although the tenor of the draft supplemental EIS compares increased clearcutting with the original timber management plan, the draft supplemental EIS does not clearly relate this comparison to a comparison of alternatives. The draft supplemental EIS may already present sufficient material for the decision maker but it does not clearly delineate the alternatives.

71-3 3. Technology Improvements. The draft supplemental EIS makes conclusory statements concerning advances in silviculture, logging system engineering and timber sale planning. Draft Supplemental EIS at 4-5. The validity and sufficiency of these statements goes to the heart of the decision addressed by the draft supplemental EIS. The draft does not substantiate these conclusions or direct the decision maker to sources of additional information. Although the Association agrees with BLM's conclusions, the Association believes the supplemental EIS should include a more comprehensive discussion of the tehnological advancements and should include at least a bibliography of authorities supporting the conclusions reached.

The Association recognizes the effort the BLM has put into the draft supplemental EIS and appreciates the opportuinity to submit comments. The Association hopes that the decision recommended by the draft supplemental EIS will ultimately be adopted, and we support the BLM in its efforts to prepare a sufficient final supplemental EIS.

Very truly yours,

Ray E. Doerner
Executive Director

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION X
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

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REPLY TO ATTN OF: M/S 443

DEC 21 1984

Al Larson
Planning and Environmental Coordinator
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97504

Dear Mr. Larson:

We have reviewed the Draft Supplemental Environmental Impact Statement (DSEIS) for the Josephine/Jackson-Klamath Timber Management Plan. This report analyzes the environmental impacts of a proposed increase in clearcutting acreage with an associated decrease in shelterwood harvest. The supplement was done to address the perceived differences between existing timber harvest practices and those analyzed in the Final EIS completed in 1979.

We agree with the conclusion of the DSEIS that environmental impacts will not be significantly different than those addressed in the Final EIS. In fact, because road construction and yarding are being reduced, sediment yield and water quality impacts should also be reduced.

Based on our review, we have rated this DEIS LO (Lack of Objections) in accordance with our responsibility under Section 309 of the Clean Air Act to determine whether the environmental impacts of proposed Federal actions are acceptable in terms of public health, welfare and environmental quality.

We appreciate the opportunity to review this report. Should you wish to discuss our comments, please contact Daniel I. Steinborn, Chief of the EIS and Energy Review Section, at (206) 442-1755.

Sincerely,

Robert S. Burd
Director, Water Division

OREGON INTERGOVERNMENTAL PROJECT REVIEW

State Clearinghouse
Intergovernmental Relations Division
155 Cottage Street N. E.
Salem, Oregon 97310

73

Jackson Josephine, Klamath Counties

Phone (503)378-3732 or Toll Free in Oregon 1-800-422-3600

STATE AGENCY REVIEW

Project Number: 84 [illegible] -051 Return Date: [illegible]

ENVIRONMENTAL IMPACT REVIEW PROCEDURES

If you cannot respond by the above return date, please call to arrange an extension at least one week prior to the return date.

ENVIRONMENTAL IMPACT REVIEW
DRAFT STATEMENT

( ) This project has no significant environmental impact.

( ) The environmental impact is adequately described.

(X) We suggest that the following points be considered in the preparation of a Final Environmental Impact Statement.

( ) No comment.

DRAFT SUPPLEMENT TO THE FEIS for Josephine, Jackson-Klamath Timber Management Plan

Remarks

The Medford BLM district has wildlife problems typical of forests intensively managed for timber production. One of the big game problems is in maintaining an even flow of forage and cover over the land base and through time. Your proposal to do less partial cutting in favor of more clearcutting helps mitigate the problem and therefore has our support. We would further encourage that timber sales returned to the BLM in the buy back program be redesigned to favor small clearcuts over the previously sold large partial cuts.

Agency Fish & Wildlife By Dan Carlson Ore Dept Fish Wildlife

IPR #5

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74

CHAPTERS
Blue Mountain
Capital
Central Oregon
Columbia Gorge
Coos
John Day
Portland
Rogue
Shasta Cascade
Siskiyou
Tillamook-Clatsop
Umpqua
Willamette

STUDENT CHAPTERS
Central Oregon Community College
Oregon State University
Treasure Valley Community College

SISKIYOU CHAPTER
POSITION STATEMENT
ON

The Bureau of Land Management,
Medford District,
Draft Supplement to the Final EIS's
for the
Josephine and Jackson-Klamath
Ten Year Timber Management Plans.

December 1984

The Siskiyou Chapter of the Oregon Society of American Foresters supports the Medford Bureau of Land Management's proposed increase in clearcutting acreage with associated decreases in shelterwood harvesting. The Chapter further supports the proposed shift from a stand basal area removed to a desired number of trees per acre left after the first entry of a shelterwood harvest system.

The membership of the Siskiyou Chapter of the Oregon Society of American Foresters is composed of approximately 160 professional foresters and other resource managers, living and working in Jackson and Josephine Counties. Members are affiliated with the USFS, BLM, OSFD, private industry, higher education institutions or are self employed individuals. Membership is diverse, ranging from young to old, including both male and female professionals. The Siskiyou Chapter takes an active role in providing professional leadership relative to forest resource issues.

Management of timber resources in Southern Oregon has been controversial for many years. Chief among the many disagreements has been the clearcutting versus shelterwood harvesting argument. The basic arguments began early in the 1960's. Clearcutting was the primary harvesting system used in Southern Oregon during the 60's decade. It was an inexpensive and efficient method for harvesting trees, but sometimes contributed to less than acceptable

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Siskiyou Chapter
Position Statement
December 1984
Page 2

reforestation success and other resource degradation. Other associated management needs and techniques such as road building, slash burning and insufficient brush control often contributed more to the overall undesirable results, however clearcuts, used as a catchall phrase, usually received the preponderance of blame.

Shelterwood regeneration systems were developed in response to perceived reforestation failures associated with clearcutting. In the 70's, extensive efforts were begun to improve reforestation success and to substantially reduce other resource degradation. New laws, new technology, new machinery and new ideas were developed toward the overall objectives of more productive timber resource management with concurrent reductions in related environmental degradation. Most changes and new ideas have resulted in increased productivity, markedly improved environmental protection and substantially increased reforestation success.

Experience on BLM and Forest Service lands has shown the shelterwood harvesting system to be successful in prescribed applications. It is a useful tool where reforestation success depends on site microclimate modification. However, shelterwood harvesting systems have proved to be unnecessary for reforestation success on most sites in Southern Oregon. A need for a revised management prescription is evident where shelterwood harvesting is no longer considered appropriate.

The proposed revision in management emphasis on BLM forest lands is an appropriate action predicated on collective knowledge gained through forest management experience and site specific research data. The shelterwood harvesting system has been shown to be an unnecessary prescription for many management scenarios. Clearcutting, on the other hand, is effective in promoting reforestation success by using today's improved technology and procedures. Clearcutting is also an environmentally sound forest management tool.

The clearcut harvesting techniques of today are greatly improved when measured against past procedures. Current clearcutting techniques protect basic environmental resources such as soil productivity and air and water quality, while greatly enhancing reforestation efforts. Improvements in harvesting equipment, slash burning, seedling quality, planting techniques, and brush and stocking control all contribute to successful implementation of clearcutting prescriptions in today's environmentally sensitive forest management operations.

The Siskiyou Chapter of the Oregon Society of American Foresters believes that implementation of the proposed silvicultural changes as outlined in the draft SEIS is appropriate and recommends its adoption.

Approved by the Siskiyou Chapter on December 17, 1984 in accord with Section II A-N of SAF Bylaws. A position of the Society of American Foresters expires three years after date of adoption unless, after thorough review, its continuance is approved.

74

Box 224
Williams, OR
97544
12/18/84

Al Larson and Mike Walker
Bureau of Land Management
3040 Biddle Road
Medford, Oregon 97504

75

Dear Sirs.

Here's some comments on the Supplemental EIS to the Final Environmental Impact Statements for the Josephine and Jackson-Klamath Ten-Year Timber Management Plans.

1) Main Assumption.

75-1 It seems that the main assumption of the SEIS is that land once regarded as suitable only for shelterwood cutting (and not suitable for clearcutting) has now become suitable for clearcutting, due to the "technological advances" mentioned briefly on pp. 5-6 of the draft SEIS.

Data needs to be provided to support this assumption.

2) Terminology & Current Harvest Status.

75-2 The use of the term "de facto clearcuts" is misleading and unclear. According to the testimony of Silviculturist Al Abee on 11/13/84, the current number of acres that have already been clearcut under the '78-'79 plans is 20,621. Of these acres, 4,798 were initial-entry clearcuts, and 15,823 acres comprise lands originally harvested once as shelterwood cuts.

Only those 15,823 acres of shelterwoods already clearcut should be labelled as "de facto". The remaining shelterwoods should be labelled as "proposed conversions" to clearcuts.

Hopefully, the final SEIS will include a full report of the current number of acres harvested under various techniques --- including the number of acres harvested as shelterwoods since '78-'79 that remain as shelterwoods.

3) Alternatives.

75-3 Given the lack of data presented to support re-classifying lands as suitable for clearcutting, and the general uncertainty of all silvicultural practices, it would seem prudent (both ecologically and economically) to consider other alternatives. A full range of alternatives is also required by NEPA as a crucial part of the EIS process.

--- Case A: Where adequate natural regeneration of the shelterwood site has not occurred, these sites could be brought up to full stocking by artificial regeneration (planting seedlings), and the overstory could be left in place to shelter the new growth. Some degree of manual brush control might also be desireable on some sites.

--- Case B: On those sites where overstory removal could result in "unacceptable damage or destruction to the existing regeneration", there are two other alternatives besides clearcutting the site and

75-3 starting over: 1) the existing overstory could simply be left in place, to satisfy diversity requirements and provide wildlife habitat; or 2) the overstory could be harvested carefully, with the spaces between the trees that remained being no larger than that desired for the final spacing of the stand (re., "Some interplanting may be necessary to fill in areas where seedlings were damaged by the final logging operations." Draft SEIS, p. 7).

75-4 4) Cost-Benefit Accounting.
Clearcutting is often chosen as the preferred treatment because it is believed to be more economical. (This assumption is often not backed up by adequate data.) The present situation seems to provide a possible exception to the general rule, as one silvicultural treatment has already been applied.

--- Case A: Here, the cost of artificially regenerating part of the site, plus the cost of manually brush clearing where needed, needs to be compared with the costs of site preparation and artificial regeneration for the entire acreage under the clearcutting system.

--- Case B: Here, revenue lost from the trees left standing, or the cost of artificially regenerating some parts of the site, or the cost of more careful logging practices, needs to be compared with the costs of site preparation and artificial regeneration for the entire acreage under the clearcutting system.

Question: What is the amount of dollar loss incurred by sacrificing the years of natural regeneration already growing on these stands?

I hope that these matters receive full consideration in the preparation of the Final SEIS.

Thank you for the opportunity to comment. My concerns are not only for woods workers like myself, or the jobs of loggers and mill workers, but for the sustainability of the forest land base that will provide jobs and enjoyment for our children and grandchildren in the years to come.

Sincerely,

Robert Brothers

Robert Brothers

cc: Phil Hamilton

17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2
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Soda Mountain Resource Council
P.O. Box 512 Ashland, Oregon 97520

76

December 21, 1984

Mr. Hugh Shera,
District Manager
Medford District BLM
3040 Biddle Road
Medford, Oregon 97501

Dear Mr. Shera:

The Soda Mountain Resource Council is a non-profit organization dedicated to the protection of the outstanding natural resources of Soda Mountain and the southern Klamath Resource Area. On behalf of the Council and its members, I would like to offer the following comments on the Draft Josephine/Jackson-Klamath Timber Management Supplemental Environmental Impact Statement.

GENERAL COMMENTS

We are very disappointed in the lack of detail and site-specific information in the DEIS, and the absence of critical analysis and discussion of the proposed action on the resources and environment of the District. There is no justification given for the Proposed Action, and why it should take precedence over the existing management plan. The DEIS completely fails to discuss and analyse any alternatives to the proposed action, in what we believe to be a clear violation of NEPA. Some of the major programmatic objections we have to the DEIS are:

76-1 1. Purpose and Need. The DEIS simply states (page 2) that the DEIS analyzes the environmental impacts of a proposed increase in clearcutting in the District. What is the reason the increase in clearcutting is proposed? Why are the existing planned shelterwood cuts inadequate? Why has BLM increased its clearcutting in the past above the level stipulated in the original Plan (the action which precipitated this DEIS)? At present, there is no described need for the proposed action, nor any justification for it. These points are a critical part of the FEIS.

76-2 2. Alternatives Considered. The DEIS fails to consider any alternatives to the Proposed Action, a clear violation of NEPA. The recent (November 1982) Ninth Circuit Court of Appeals case California vs. Block made it very clear that Federal agencies are complelled by NEPA to offer a reasonable range of alternatives, and set guidlines to that end. This DEIS fails to examine any alternatives to the proposed action. This, plus the the lack of clearly stated need for the proposed action, makes the DEIS a very faulty document. Why was clearcutting selected over other harvest methods? What criteria were used in selecting harvest methods? What alternative cutting methods were considered before the proposed action was selected, and why were these disgarded? We believe the DEIS is completely inadequate in addressing these NEPA requirements.

76-3 3. Site-Specific Analyses. The DEIS indicates that an additional 46,300 acres of BLM-administered forest lands will be clearcut over the next decade, but the DEIS fails to show where these lands will be. Have these lands been identified and mapped? If so, why was a map not included in the DEIS, or a summary map included with detailed maps available for review at the BLM District office and public libraries in the Rogue Valley? If these lands have not yet been specifically identified, how has BLM calculated the site-specific impacts of the Proposed Action? How has BLM calculated the cumulative impacts of the Proposed Action? The DEIS gives a very general, idealized description of how the lands selected for clearcutting will be identified; what is the specific way in which this process will be applied to the Medford District?

We find that the site-specific impact analysis of the Proposed Action is very weak, with virtually no supporting data and only generalized comments. The FEIS should include a much more comprehensive analysis of the impacts of the Proposerd Action on specific resources. The cumulative impacts analysis also needs to be strengthened.

Specific Comments

1. Wildlife
Wildlife is one of the major concerns of the Council, and one which is poorly addressed in the DEIS. The DEIS only addresses superficially deer and elk, and does not even consider the much larger wildlife community.

76-4 The DEIS states that deer and elk generally would benefit by the increased browse that would result from clearcutting. Since this browse would also develop under shelterwood cutting, how significant would the relatively minor amount of additional forage be to these species? What would be the impact of losing the thermal and hiding cover that the shelterwood cuts would provide, but that clearcutting would remove? The literature also shows that many clearcuts are little used by deer and elk beyond 100 or so feet into the cut, because the animals won't feed where there is no escape cover. What specific guidelines will be used to ensure that clearcuts are designed so that all, or most, of the forage base will be available to big game?

The major deer species in the area, the Columbia black-tailed deer, has in recent years been found to differ from its eastern relatives in its optimal habitat requirements. Recent studies in Alska, for example, have shown that old-growth forest is the optimal habitat for this animal, and that it does much more poorly than expected in clearcuts. What portion of the EIS area is inhabited by black-tailed deer, and what portion by mule deer? What research has the Medford District used in making its statements regarding deer use of clearcuts? Has it studied the Alaska studies of the black-tail, and how does this compare to habitat requirements for mule deer? What studies were used to determine the response of Roosevelt elk to clearcutting?

76-5 The DEIS gives only cursory attention to other wildlife species, even though these will be the ones most substantially affected by the propoaed action. Many species (such as Lewis' woodpecker) can continue to reproduce and successfully rear young in a shelterwood cut, but simply cannot in a clearcut. What will be the impact of the Proposed Action on wildlife which are not old-growth dependent, but which require midsuccessional to mature forest for feeding and successful reproduction? The FEIS should include charts similar to Appendices 9, 10, 26 ands 27 of Wildlife Habitats in Managed Forests - the Blue Mountains of Oregon and Washington (USDA Forest Service, September 1979, Agriculture Handbook No. 553) to display the impacts of the proposed action on all wildlife species that would be affected. not just deer and elk. (A similar analysis was done by the Prineville District in the Brothers Grazing Management Plan in 1982).

76-6 How do the clearcut areas relate to old-growth set-aside areas, specifically those for spotted owl, pine marten, pileated woodpecker, and other old-growth dependent spoecies? How will increasing the size and number of clearcut areas affect dispersal of these species? What will be the impact of removing the migration and habitat cover that shelterwood provides for these species in clearcut areas? Will there be a buffer between the old-growth set-aside areas and clearcuts? What allowance for dispersal distance and corridors is being made? How will this affect the minimum population management levels for old-growth-dependent species in the District? What standards will be set for snag management, and how will monitoring of snags be undertaken?

76-7 The DEIS fails completely in assessing the ecological changes that will result from changing the overstory-understory relationship, even though the proposed action constitutes a major change in the affected environment from the current plan. Larson and Wolters (1983, "Overstory-understory relationships: mixed conifer forests" in: Overstory-understory relationships in western forests. West. Reg. Res. POubl Fort Collins, CO, CSU Exp't Stn.) have described some of the impacts of changing this relationship on forest lands in Alaska. This information should be reviewed and incorporated in the FEIS.

76-8 2. Fisheries

As with wildlife, the fisheries section is very scanty.

76-8 Experience in Alaska has shown clearly that, even with riparian buffer zones, clearcutting can have a substantial impact on salmonid fisheries (see "Evaluation of Buffer Zones for Protection of Salmonid Rearing Habitat with Implications for Enhancement", presented by K.V. Koaki and J. Heifetz, US NMFS from Auke Bay, Alaska, at the Pacific Northwest Stream Habitat Management Workshop hosted by the AFS at Humboldt State University last October 10-12). Because these impacts can be significant, the FEIS needs to address fisheries at a much more specific level than it curently does. How many miles of anadromous fish-producing stream are located in or adjacent to the proposed clearcut sites? How many miles of native trout stream? What is the soil base in these areas, and how will clearcutting effect erosion into the stream? What are the cumulative impacts expected to be on both anadromous and native fisheries?

3. Other General Comments

76-9 What guarantees does the Plan include to ensure that adequate funding is available to ensure timely reforestation? What have reforestation budgets been over that past 3 years? What is the current backlog of areas needing reforestation in the DEIS area? What specific technological advances have been made which indicate that stocking standards can be met in the proposed clearcut areas? How does the cost of these new methods compare with current mehtods? What is the PNV of the Proposed Action, and the current Plan? What monitoring will be undertaken once the Proposed Action is adopted? Again, there is no dicussion of alternative methods of forestry; this needs to be included in the FEIS.

Thank you for this opportunity to comment. Please include these comments in the FEIS.

Respectfully submitted,

Bruce R. Boccard,
Chairman

Kathy Gaines
4400 Mungers Creek Road
Williams, Oregon 97544

18 December 1984

77

Dear Mr. Shera:

I've recently been informed of a BLM proposal to consider raising the clear cutting level to five times what now exists. I strongly oppose this policy.

77-1 I currently reside on property which has Mungers Creek flowing through the center. I've invested by life's savings into buying this property. I drink the water from the creek. I have a bridge which spans the creek which allows access to my home. I have observed a delicate balance which preserves the beauty and function of such a free flowing stream. Clear cutting in the past has developed serious problems with watersheds.

I feel governmental agencies should protect individuals from abusive forest practices. Please do not submit to the lumber companies to log in the most expedient and cheapest manner possible. I plead with you to reconsider your proposed clear cutting policy and let the land remain fruitful and beneficial to all the people for many years to come.

Sincerely,

P.O. Box 325
Grants Pass, Oregon 97526

21 December 1984

78

Mr. Hugh R. Shera, District Manager
Bureau of Land Management, Medford District
3040 Biddle Road
Medford, OR 97504

Dear Mr. Shera:

The following comments are submitted for SOCATS concerning the Medford District's Draft Supplemental Environmental Impact Statement for Timber Management in the Josephine and Jackson-Klamath Sustained Yield Units. While it is surely commendable to attempt to further the purposes of NEPA, that cannot occur unless all important issues relevant to a proposal are identified and addressed. To accomplish this in the present situation, it is necessary to go beyond the extremely limited scope of "addressing public controversy" set forth in the DSEIS. Once again, BLM has come up with issues and questions to fit its own solutions and answers, ironically shutting out the public from helping determine what the controversy (as in "public controversy") is.

78-1 Much of the criticism of the Josephine and Jackson-Klamath Timber Management Plans arose because of their failure to recognize and discuss important issues and because basic assumptions were unsupported. Although these documents admitted a few areas of scientific uncertainty, many significant data gaps were ignored. These flaws are directly at the root of the District's present problems; by adopting the same approach and incorrectly identifying the need and purpose of the DSEIS as "perceived differences" between existing timber harvest practices and those described in TMPs, the problems can only be compounded. These differences may be "perceived", but more importantly, they are real, and they go far beyond the matters mentioned in the DSEIS, which simply substitutes new conclusory statements for previous ones without touching the sources of problems and the opportunities for solving them.

Because of time limitations, we cannot comment on all the issues that should be considered in supplementing or revising the existing TMPs. Many important unaddressed comments from the public and expert agencies should be reviewed in those EISs. Practically all of our previous comments are pertinent to the DSEIS. Many of the issues ignored by BLM in 1978 and 1979 when the planning periods began have been further clarified since that time, but the agency is still turning away from them.

78-2 A news report on the recent Advisory Board meeting stated that the Medford District must choose between "two undesirable alternatives". NEPA was designed to avoid such a choice. This kind of predicament is reached only by circumventing the intent of the Act. According to an answer to a question at the public meeting about the District's failure to develop other alternatives in the DSEIS, this was not done because the supplement had to stay within the confines of the original programs. If that is true, then it is necessary to revise the EISs rather than write a supplement that retains a basic defect of the TMPs — lack of feasible alternatives that would meet BLM's various mandates.

The CEQ regulations for implementing NEPA state clearly that alternatives are the heart of an EIS (40 CFR 1502.14). Although the regulations permit a supplement to be written without scoping, nothing forbids scoping when it is needed. If the need for a supplement is attributed to "public controversy", the public should unquestionably be involved in identifying that "controversy" before the DSEIS is issued. The futility of the position of writing comments that are ignored in a final document is all too familiar to citizens like us. Please see pages 13 and 14 of our comments on the J-KSYU DEIS (letter #25) regarding alternatives; only two minor points were addressed, and contrary to one of the answers, non-chemical vegetation management alternatives were not "emphasized" until SOCATS v. Watt got moving. For many years we have advocated some of today's "promising" alternatives which should have been considered long ago. These include stewardship contracts, which could have been pioneered by the Medford District. The Eugene District of the BLM started testing this idea in 1981, and now some National Forests are following this lead, but the Medford District apparently still continues to ignore this option for reducing reforestation problems.

78-2 The importance of developing alternatives is stressed throughout the NEPA regulations, and is applicable to any part of the NEPA process, including supplements. Section 1507.2(d) states that agencies shall:

> Study, develop, and describe alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources. This requirement of Sec. 102(2)(E) extends to all such proposals, not just the more limited scope of Sec. 102(2)(C)(iii) where the discussion of alternatives is confined to impact statements.

BLM surely cannot claim that the proposal in the DSEIS does not involve unresolved conflicts concerning alternative uses of available resources.

78-3 The second major defect in the DSEIS encompasses its reliance on unsubstantiated conclusions and a lack of sufficient and balanced information. 40 CFR 1502.24 states:

> Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. ...

40 CFR 1502.21 describes incorporation by reference as follows:

> Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment....

Of the six "References Cited" on page 17 of the DSEIS, two are the TMPs being supplemented. Three of the four which are specifically referenced in the text of the DSEIS concern deer and elk use of forest vegetation. Although we believe there are more recent or pertinent studies which could be cited in regard to ungulates, these relatively adaptable species are not truly representative of the types of wildlife most adversely affected by BLM practices, so there is no purpose in increasing the references on that subject to more than half of the total listed for the whole DSEIS. 78-4 The relevance of the only other specific reference described in part of a sentence on page 6 is unclear. Where were the clearcuts with average stocking rate of 77 percent? The title of the study indicates they are in the Medford District; but the text compares this stocking with a different percentage in the District. Was this reference available for inspection during the comment period? Do earned harvest factors for intensive forest management not assume such stocking on recently-harvested units?

78-5 Concrete information about the operational experience with the different cutting methods which has prompted a tremendous shift from shelterwood harvest to clearcutting is conspicuously absent. Pages 4, 5, and 6 refer to "technological advances in silviculture, logging system engineering, and timber sale planning" which "indicate that reforestation to approved stocking standards can be effectively achieved on most sites through clearcutting". These advances and techniques are not described in the DSEIS. Instead, the reviewer is simply offered more terms such as "state-of-the-art information" and platitudes like "The efficient use of these practices encourages successful artificial reforestation in a timely manner" (page 4) and "It (clearcutting) has proven

78-6 to be successful when applied with sound professional judgement (sic) integrating all resources values with management objectives and needs". These statements are useless in a planning document unless related to specified operational experience in the Medford District. Simply citing a stocking figure without any indication of the acreage or time period involved, the reliability of the crop trees actually being "established", or the completeness of the records in regard to total planting efforts and treatments can only be misleading. "Encourages", "favors", "indicates", and "often" are not a sound basis for such a major change. Certeinly "all major points of view on the environmental impacts of the alternatives considered" are not presented in either the TMPs or the DSEIS as required in 40 CFR 1502.9.

The DSEIS also lacks explanation of how the projected increase in clearcutting would be divided between initial entry clearcuts and previous entry shelterwoods ("de facto clearcuts"). 78-7 Possibly most important, there is no explanation for the apparent dismissal of "Recommended Watershed Practices" in the TMPs; it seems impossible that the proposed shift to clearcutting could meet the standards in the TMP, but we find nothing in the DSEIS about changing them. 78-8 The J-K TMP also states, "Approximately 16 percent of the high intensity lands possess soil, topographic and climatic conditions suitable for clearcut harvest techniques" and the DSEIS makes no revision of that determination.

78-9 Although not presented as decisionmaking standards, the "circumstences" and "conditions" which are said to "favor" either clearcutting or shelterwood harvest (pages 6-7 of the DSEIS) appear to be an attempt to justify the new proposal. Disturbingly, they mention steepness as a deterrent factor only in regard to second-stage shelterwood cutting. Perhaps more ominous, circumstance (4) "favoring" clearcutting could probably be applied to much of BLM's remaining old-growth ("Shelterwood harvesting is often not appropriate on some sites because of high defect, low volume per acre, and low production rates per day due to harvesting only a portion of the stand"). A reviewer must know how easily the circumstances and conditions described in this section of the DSEIS can override previous criteria, or whether those criteria have actually been changed. The DSEIS does not tell us.

78-10 During the public information meeting, the proposed change in cutting methods was explained to be feasible and necessary because of operational experience and new research, but no specific research results are related in the DSEIS, nor are any data provided on unsuccessful shelterwood and successful clearcut harvest units. Such information is essential to support the new proposal. We are not aware that any FIR researchers have drawn any conclusions from their studies on hervest methods; recent FIR reports emphasize that this research is just beginning.

Regarding criteria for overstory retention in shelterwood units, it appears that basal area standards are being changed to "trees per acre" without specifying any minimally-acceptable crown size. The DSEIS states on page 7 that "Unacceptable damage to seedlings usually occurs during logging if the overstory is excessive". Even without waiting for the recommendations in improving shelterwood harvest methods that are expected from FIR research projects, it seems that BLM's own operational experience could be analyzed to quantify "excessive" overstory so that the problem of "unacceptable damage to seedlings" from second-stage shelterwood harvest could be avoided. The District should explain why this cannot be done and present strong evidence that clearcutting will be successful before proposing the change outlined in the DSEIS.

78-11 Further questions ebout the proposal are prompted by the concomitant intention to increase burning operations, as stated on page 8 of the DSEIS. The figures given in the paragraph headed "Air Quality" show that less than one-third of the burning projected in the TMPs has been accomplished, although the programs are more than one-third into their decades. The proposed change adds another 1300 acres, raising doubt about feasibility. Reviewers must know what percentage of intended burning projects have been approved for timely implementation (under the state's smoke management restrictions)

78-11 and how many had to be deferred, resulting in delayed planting. The risk of fire escepe should also be discussed, as well as air pollution, including information on unintended incidents that have occurred despite "project design features". Also, BLM has not acknowledged that air pollution can cause adverse effects even when state standards are met.

78-12 Although the DSEIS assumes or implies that increased clearcutting will be more economical than the program in the TMPs, neither unquantified values nor calculable costs have been discussed or weighed. If stocked shelterwood understories are to be sacrificed for "de facto clearcuts", then the value of the years of growth destroyed is a loss that must be computed and disclosed. 78-13 Since the ACE for timely regeneration has already been assumed, the allowable cut will fall significantly (page 1-52 of the J-K TMP states that no regeneration lag was assumed in computing the present allowable cut, and page 1-4 states that if planned intensive measures are not accomplished on schedule, allowable harvests should be reduced accordingly). Table 1-7 on page 1-21 of the J-K TMP shows that the credit for "Hervest and Plant" is about twice the combined total credits for vegetation management, thinning, and fertilization.

78-14 Reviewers must also have information about the possibility and expense of additional mitigation measures that might avoid "unacceptable damage" during second-stage shelterwood harvesting and the costs of interplanting if such damage does occur in order to compare them to the losses discussed in the preceding paragraph and the expenses of starting an unpredictable reforestation effort again from scratch.

78-15 BLM's conclusion that the lessened road construction which would accompany clearcutting will overcompensate for the additional impacts of clearcutting is too facile. The "Soils" section of the OSEIS (page 9) states that management activities that can have a significant effect on erosion and soil productivity are road construction, yarding, and burning; 78-16 the "Water Resources" section on the same page projects slightly increased water yields and reduced sediment yield for the new proposal. No data or references are offered to support these assumptions, and they are highly questionable. 78-17 Other factors involved in clearcutting (such as denudation of a large area and sudden loss of soil-holding vegetation) can cause significant erosion, stream sedimentation, and loss of soil productivity. The Alsea Watershed Study mentioned in our comments on the J-K TMP showed that slash-burned clearcuts caused more sedimentetion than roadbuilding. We realize that soil types and problems are different in the Coast Range and Southwest Oregon (slumping vs. revel), but the DSEIS has completely ignored the potential and predictable impacts of increased clearcutting.

78-18 The supplement must also discuss other problems which will be exacerbated by the proposal. These include pocket gopher infestations which BLM standard operating procedure targets for large control programs. Instead of attributing this cost to clearcutting, Table 1-7 in the J-K TMP shows allowable cut credit for gopher control. If the District creates additional gopher habitat, it can then further increase the allowable cut by attempting to control the proliferating gophers. This seems unreasonable but possible. Another undisclosed impact of increased clearcutting is a further reduction in snag retention.

78-19 Inadequacy of information in the DSEIS about its stated subjects pales in comparison to its failure to even mention significant matters and information integral to the District's timber management. The fect that the allowable cut has been changed twice this year is certainly of utmost importance in considering a supplement. Harvest reductions were necessary because the District has not accomplished the thinning, fertilization, or herbicide treatments projected in the TMPs. Despite media emphasis on the injunction on herbicide use interfering with the vegetation management program (a factor that was remedial), the larger reduction resulted from the failure to do precommercial thinning and fertilization (because of inadequate funding). Any new proposals must relate to these changes, both in substance and in reflecting on previous assumptions. BLM has maintained that herbicide use is essential to standard operating procedure for clearcut reforestation. Based on

78-19 statements made to the courts in appealing the District and Appellate decisions in SOCATS v. Watt, it will be virtually impossible for BLM to comply with the requirements of 40 CFR 1502.22 or it will take about five years to comply (these statements were made with the knowledge that USDA was already attempting pesticide analyses that would comply with this section of the NEPA regulations). We are aware of industry and agency attempts to change the regulations, but the Medford District surely cannot plan a 5 year program on the basis of expecting such a change. Any proposal for increasing clearcutting must be explicit about vegetation management methods.

78-20 Rather than claiming the supplement is being written as a discretionary action to further the purposes of NEPA (40 CFR 1502.9(c)(2) and ignoring the unresolved conflicts that led to present problems because they were not addressed in the TMPs, the Medford District must base the supplement or revision on the reality that the major assumptions and conclusions in the TMPs were erroneous or that there are "significant new circumstances relevant to environmental concerns and bearing on the proposed action or its impacts" (1502.9(c)(i)-(iii)), and that BLM is making "substantial changes in the proposed action that are relevant to environmental concerns" (1502.9(c)(1)(ii)).

78-21 On page 7 of the DSEIS it is stated that "significant conflicts, environmental preferences, and economic and technical considerations will be addressed in the amended ROD". To permit rational public review and a reasoned decision, the draft requires these considerations. 40 CFR 1502.9(a) states, "If a draft statement is so inadequete as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion". As discussed in these comments, BLM's failure to develop alternatives, to address issues raised by the public, to recognize significant new circumstances, to present scientific and analytic bases for comparing the impacts of the proposal to previous action, and to disclose and weigh scientific uncertainty do preclude meaningful analysis.

78-22 Although the DSEIS states on page 2 that BLM believes impacts have not significantly changed from those previously analyzed, the defects in previous analyses and circumvention of essential considerations demonstrate the invalidity of that belief. Implication by omission is not acceptable in a NEPA document. The Ninth Circuit Court recently reminded BLM that "beliefs" do not obviate NEPA responsibilities.

Even if BLM does not think the CEQ regulations mean what they say, case law has provided plentiful guidance to federal agencies. The 1976 CATS v. Bergland case should have made SOCATS v. Watt end similar subsequent cases unnecessery. Although 2,4,5-T was e mejor issue in CATS, a number of points in Judge Skopil's 1977 decision are directly applicable to other programs, including the Medford District's current plans. Judge Skopil confirmed:

* Discussion of alternatives must be undertaken in good faith and must not be employed to justify a decision already reached.

* It is necessary to indicate the extent to which environmental effects are uncertain or unknown.

* Where scientists disegree about possible adverse effects, NEPA documents must inform decisionmakers of "the full range of responsible opinion".

* Conclusory statements which do not refer to scientific or objective date supporting them do not satisfy NEPA.

(428 F. Supp. 908 (1977) 911, 922.)

Apparently one reason that agencies repeatedly force the same issues into court is that they are not informed about the facts of such cases. We recently learned that no one in the Medford District Office has read the documents in the SOCATS case. That explains why felse claims end incorrect positions which have been defeated in court keep reappearing.

In the case of the DSEIS, BLM apparently feels it must avoid addressing the real reasons that a supplement or revision of existing TMPs is needed, and has written a justification document becuse the change in progrem has already occurred. However, this kind of situation particularly requires straightforward disclosure. It is not possible to proceed

reasonably until facts and uncertainties are squarely faced. This principle governs scientific method. It is elso the basis for the NEPA process.

78-23 40 CFR 1501.7(c) states that "if substantial changes ere made later in the proposed action, or if significant new circumstances or information arise which bear on the proposal or its impacts", an agency shall revise the determinations made under previous scoping. While this section is directed at DEISs, it applicebility to the current situetion with this SDEIS is plain. It is clear that this situation demands consideration of other alternatives and a different way of looking at forest resources.

78-24 BLM has previously discarded many suggestions for timber menagement which would achieve the purposes of its mandates, including NEPA. Sec. 2 of that Act states its purposes are to:

> ... encourage productive and enjoyable harmony between man and his environment;
> ... promote efforts which will prevent or eliminate demage to the environment and biosphere and stimulate the health and welfare of man; (and) ... enrich the understanding of the ecological systems and natural resources important to the Nation...

Whether unintended or deliberate, various conditions have shut out the public from BLM program planning, and this has discouraged many people from trying to participate in "public involvement" processes. However, there are still citizens, organizations, and agencies with constructive ideas who keep trying. 40 CFR 1501.2 requires early integration of the NEPA process with planning "to avoid delays later in the process, and to head off potential conflicts". 1501.2(d)(2) instructs agencies to consult early with appropriate agencies, Indian tribes, and interested persons and organizations when their involvement is reasonably foreseeable. Any delays or conflicts which occur in regard to this DSEIS cannot be blamed on the public. Citizens requested involvement in the process prior to the draft; although this was denied, vital issues have been raised through other processes end those issues (relevant to the proposal) were not covered in the DSEIS.

In these days of both a national trend toward conservatism and a demand (demonstrated in numerous national polls) for environmental protection, BLM must stop planning massive programs based on sheky essumptions and conclusory premises and must take a more careful approach to resource management responsibilities. The NEPA process can effectively guide an agency toward reasoned decisionmaking, but it must be used as intended in the planning stage; it cannot work when agencies merely ettech a guise of NEPA compliance to plans that are already made. Sections 1500.2(c), 1501.2, 1502.2, and 1502.5 all emphasize this.

We believe a feasible, appropriete program would involve flexibility and a mix of methods (including those used currently), but with additional considerations and firm constraints. Since site-specific factors must be essessed before prescribing action for each harvest unit, acreage projections should be used only as limits on certain practices. Strict standards as to the applicability of each method in regard to soils, slope, aspect, microclimate, and other site characteristics must govern prescriptions, and must not be waived for expediency; "circumstances" such as high defect, low volume per acre, and low production retes may "favor" clearcutting, but must not determine the harvest prescription or replace criterie. Regarding vegetation management, the focus on "competition" should change to a real examination of the values of all species, both for commercial uses and for vital forest interdependencies.

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We appreciate this opportunity to comment on the DSEIS and hope the Medford District will meke a fresh start at supplementing or revising the TMPs by comprehensively explaining the need for program changes, eddressing important issues raised by the public and other egencies, and rigorously exploring and objectively evaluating reasonable alternatives.

Submitted by

Phyllis Cribby (fr)

Southern Oregon Citizens Against Toxic Sprays

cc: SONCAP and Headwaters

ASSOCIATED OREGON LOGGERS, INC.
AUTUMN HOUSE
1077 GATEWAY LOOP • P.O. BOX 846
SPRINGFIELD, OREGON 97477
(503) 746-4311

F.F. "Monte" Montgomery
President

79

December 26, 1984

Mr. Mike Walker, Team Leader
BLM, Medford District Office
3040 Biddle Road
Medford, Oregon 97504

Dear Mr. Walker:

Thank you for sending the Josephine/Jackson-Klamath Timber Management Supplemental Environmental Impact Statement so promptly.

As you know the AOL is a statewide organization representing many contract loggers who earn their livelihood within your district. Specifically, we have two chapters that are affected by your timber management decisions, Southern Oregon and Klamath Falls. Thus we believe it is important to comment on the proposed changes to the Timber Management Plan.

Recognizing these following comments which discuss the proposed action will not be addressed in the final SEIS, we appreciate the opportunity to participate in the decision process.

79-1 We readily support the proposed changes for the following reasons.

1) You have recognized the importance to continue to evaluate your timber management plans in light of better "on-the-ground" experience and research efforts. It is apparent from the proposed changes, serious consideration was made toward the economics of logging such as better unit lay-outs, consolidation of acres logged and single entry of a timber stand (clearcuts).

2) This promotes lower logging costs to you and the contract logger, yet it also creates a higher margin of return to the logger.

3) By consolidating and reducing the number of acres logged, yet keeping the harvest volume the same and reducing new road building you may have struck that magic note of balance. On one hand, the loggers have access to the same amount of timber on less acreage with less road building investment. On the other hand, one time timber stand entries and fewer roads built greatly reduces soil erosion, stream sedimentation and such which actually enhances the environment.

The clearcut issue is always a major battle, but by promoting its positive points, improving research data and maintaining improved shelterwood harvesting contract loggers can work and live with that kind of balance.

Thank you for the opportunity to comment.

Sincerely,

Greg Miller

Gregory A. Miller
Forest Planner

80

OREGON INTERGOVERNMENTAL PROJECT REVIEW

State Clearinghouse
Intergovernmental Relations Division
155 Cottage Street N. E.
Salem, Oregon 97310

Phone (503)378-3732 or Toll Free in Oregon 1-800-422-3600

STATE CLEARINGHOUSE REVIEW ADDENDUM

APPLICANT: Medford Bureau of Land Management

PROJECT TITLE: Josephine|Jackson-Klamath Timber Management

PROJECT NUMBER: OR841031-041-4

DATE: 12|27|84

The State Clearinghouse has received additional comments from
Department of Environmental Quality

subsequent to our conclusion letter of December 11, 1984.

Please see copy(ies) attached for your attention.

Additional Clearinghouse comments:

(X) Please consider this letter and enclosure(s) an addendum to our previous letter.

( ) The Clearinghouse is forwarding a copy of this letter and enclosure to the federal funding agency.

If you have questions please contact the State Clearinghouse at the above address and telephone number.

IPR #10

VICTOR ATIYEH
GOVERNOR

Department of Environmental Quality

522 S.W. 5th AVENUE, BOX 1760, PORTLAND, OREGON 97207

DEC 2 4 1984

December 11, 1984

State Clearinghouse
Intergovernmental Relations Division
155 Cottage Street, S. E.
Salem, OR 97310

Re: Project OR841031-041-4
Josephine/Jackson - Klamath
Timber Management Supplemental EIS

The Air Quality Division of the Department, in reviewing the potential air quality impacts of the above project, has become concerned that the anticipated increases in slash burning emissions could adversely impact air quality within the Rogue River Valley and/or nearby Federal Class I areas such as Crater Lake National Park. Since the extent of the air quality analysis is insufficient to determine the likely impact of increased burning activities, the Department is concerned with any emission increases which could adversely impact the Medford-Ashland nonattainment area and/or air quality in Crater Lake National Park.

80-1 Part C of the Federal Clean Air Act, in describing Significant Deterioration of air quality in Class I areas, requires the Department to insure that pollutant increments in Class I areas do not exceed specific limits adopted by Congress irrespective of the originating source. To insure that these increments are not exceeded during the planned increase in slash burning emissions, BLM would be required to submit a detailed technical analysis of the impact of each planned burn on nearby Class I lands. Such an analysis would not be required during a period of declining burning activity.

The Final Environmental Impact Statement must quantitatively address the impact of any increase in slash burning emissions on the Medford-Ashland Air Quality Maintenance Areas, on PSI Class I increments, and must have specific mitigating measures identified to insure that State and Federal air quality requirements will not be exceeded.

Sincerely,

Thomas R. Bispham
Administrator
Air Quality Division

JEC:ahe

DEQ-1

E. Responses to Comment Letters on DSEIS

1. Common Issue Responses

Common Issue 1 (3-1, 5-1, 7-1, 19-46, 33-14, 37-2, 38-8, 41-1, 48-1, 49-2, 58-16, 78-17): A number of commenters felt that the increase in clearcutting would increase erosion and sedimentation.

Response: Under a clearcut, more surface area would initially be disturbed per acre harvested than during the initial entry of a shelterwood cut. A two-stage shelterwood, by District definition, requires a second entry which occurs within five years after the initial entry. The second entry redisturbs soil that had become stabilized with vegetation, thus allowing erosion to occur over a longer period of time. In any one year, more acres would be entered and more roads built to harvest the same timber volume under a shelterwood harvest than a clearcut. The amount of soil disturbance and subsequent erosion is predominantly a function of the yarding system employed. Tractor logging, for instance, causes more soil disturbance than hi-lead or skyline logging systems. A shift to increased clearcut harvest would not significantly effect the selection of the logging system. Areas considered fragile from the standpoint of potential erosion are identified during the land inventory process. Protection measures such as the use of specialized logging systems or the exclusion of road construction are employed on fragile areas to minimize excessive erosion. Also see Section II.B. (Soils).

Common Issue 2 (38-8, 43-4, 58-21, 76-8, 78-14): Individuals questioned whether non-timber values associated with each timber sale are adequately known and considered, whether stream protection measures would be effective, and whether the District has adequate experience to predict the impacts of the change in harvest practices on aquatic habitat.

Response: Information on the location and status of streams, soil types, areas of potential slope instability, and other environmental factors is identified by an interdisciplinary team of resource specialists for each proposed harvest unit. These specialists discuss conflicts to reach an agreement regarding a proposed harvest plan that accomplishes silvicultural goals and management objectives for other resources. During this process, project design features and possible mitigating measures are identified to reduce impacts to affected resources.

The effectiveness of mitigating measures is monitored routinely. If the measures are ineffective in a particular instance, it is determined why, and improvements are implemented for subsequent sales. This type of constant review allows a fine tuning of techniques to minimize logging-related impacts to streams and riparian areas and, with some confidence, to predict the impacts.

The protection that would be required for streams and riparian areas under the change in harvest practices is identical to that under the FEISs and their RODs. Specific stream protection goals and ways to reach those objectives are listed in the maintenance supplement to the MFPs timber decision T1.1 and in the MFP watershed sections for both SYUs which are available for public review at the Medford District Office.

Common Issue 3 (8-1, 21-2, 25-2, 26-2, 30-1, 32-1, 39-1, 44-1, 45-1, 46-2, 47-1, 55-1, 61-1, 66-1, 67-1, 69-1, 70-1, 76-8, 79-1): Many commenters were supportive of the proposed change in harvest practice ratio, stating that clearcutting reduces BLM's cost of sale preparation, the logging costs, road building, and costs of other treatments because it necessitates one entry rather than two or more entries for shelterwood harvest. They felt this SEIS should address these economic advantages, including the apparent increase in receipts to the U. S. Treasury and O&C counties.

Response: While BLM expects reduced costs of the kinds identified, the conversion of these cost reductions into increased receipts to the U. S. Treasury and O&C counties is less predictable. Many other factors, such as market conditions, have a far greater and overriding influence on timber sale bid prices (revenues). The changes in the harvest practice ratios described in the SEIS are being considered for environmental and silvicultural reasons, not economic reasons. Also, the FEISs contain an analysis of the socioeconomic impacts of the level of timber harvest being considered in the various alternatives. Since the proposed action does not alter the level of timber harvest decided upon in the FEISs, it would not substantially affect the previous analysis of socioeconomic impacts. Therefore, an economic analysis was not prepared for this SEIS.

Common Issue 4 (3-2, 6-2, 16-1, 19-13, 19-22, 19-34, 19-35, 19-53, 26-2, 28-1, 49-2, 76-8, 78-12): Some commenters were not supportive of the proposed change in harvest practice ratios. They felt that BLM should perform an economic analysis which would compare costs of clearcutting versus shelterwood harvest practices. Proposed issues to be considered were perceived differences in reforestation costs by harvest practice, the effects of a decreasing market, declining county revenues, and an evaluation of surplus timber on the market. Also, they mentioned the separate but related feeling that the proposed change in harvest practice ratio, which increases clearcutting, was due to a desire to reduce the cost of logging so government and industry would receive increased revenues.

Response: Current reforestation costs of shelterwood and clearcutting are similar because site preparation costs and planting costs are essentially the same. However, shelterwood yarding costs are greater than clearcut yarding costs, so there could be a positive economic impact. The effects of a decreasing timber market, declining county revenues, and a perceived surplus of timber on the market appear to be characteristic of the low part of the timber market price cycle and do not appear to be related to a change in harvest practice ratio. In any case, conversion of costs (decrease or increase) into decreased or increased receipts to O&C counties is less predictable. Many other factors, such as market conditions, have a far greater and overriding influence on sale bid prices. Better silvicultural and environmental management is the reason for the change in harvest ratio as described in the proposed action, not economic reasons. Also, the FEISs contain BLM's analysis of the socioeconomic impacts of the level of timber harvest being considered in the various alternatives. Since the proposed action does not alter the level of timber harvest decided upon in the FEISs, it would not substantially affect the previous analysis of socioeconomic impacts. Therefore, an economic analysis was not done for this SEIS.

Common Issue 5 (14-3, 17-5, 43-4): Some commenters expressed concern that the impacts of clearcutting on aquatic life would be greater under the proposed action in the SEIS and that the BLM needs to provide better protection for streams.

Response: See Chapter II, Section F. (Fish) for a discussion of how the change in harvest practices would affect aquatic life.

Common Issue 6 (29-2, 43-3): Are there any alternatives to burning for the disposal of slash?

Response: Table Four (Appendix B) shows 22,036 acres not burned of 39,500 acres harvested. Alternatives to burning are considered in every pre-sale proposal. Various combinations of fuel management (e.g., gross yarding, lopping, and scattering of slash; reserving the hardwoods; and yarding timber with limbs attached) are employed to reduce the need for burning. The alternative of chipping for mulch is limited on the District by two factors: (1) the small size of the material being created, and (2) the steepness of many slopes on the District. Tractors can be used to modify the slash loading on slopes less than 35 percent. However, ground-based machines used for slash control are limited because they cause soil compaction.

Common Issue 7 (13-1, 16-2, 19-11, 19-16, 26-1, 28-2, 34-1, 37-1, 37-2, 38-8, 48-1, 50-1): A number of commenters expressed concern about clearcutting and protection of scenic quality in the Williams viewshed.

Response: Visual and recreational resource values identified in BLM planning documents would continue to be protected and managed in accordance with the Josephine MFP.

The Williams Valley viewshed is currently inventoried as having class C scenery quality. Public sensitivity, based on traffic volume data, was rated as medium for resource development actions. The viewshed was classified for VRM class 4 management. This classification allows resource development actions to be evident to the casual observer and may be dominant features within the viewed landscape.

Common Issue 8 (19-26, 58-12): Two commenters thought that areas should be completely withdrawn from the timber base for riparian zones and elk thermal cover.

Response: Riparian zones that border all fish-bearing streams on high intensity management lands have been withdrawn from the timber base for the current ten-year period. In addition, there would be no timber harvest along fishery streams on approximately 50 percent of the District that is classified non-forest, low or limited intensity land, or non-commercial forest lands. Although timber harvest is permitted in riparian zones on non-fishery streams throughout the District, measures are taken routinely to minimize impacts to these unique areas. See also response to common issue 2 (Stream Protection).

Twenty-five to forty percent of the crucial elk winter range is maintained in a closed canopy condition with cover at least 50 feet high (see Josephine MFP decision WL-5.5). This habitat includes some old growth. Some areas with old growth are withdrawn from the timber base due to TPCC classification (i.e., low intensity and limited lands).

Common Issue 9 (3-3, 6-1, 14-1, 16-4, 19-9, 19-23, 19-54, 33-3, 38-4, 42-1, 43-1, 53-6, 53-7, 54-6, 56-4, 58-7, 58-8, 58-10, 63-3, 70-3, 71-3, 75-1, 76-8, 76-9, 78-4, 78-5, 78-9, 78-10, 78-19): Concerns were raised regarding the District's reforestation activities. Issues included the number of acres planted, monitoring of stocking success, adequate stocking, and vegetation control.

Response: As shown in Table Eighteen (Appendix B), the District anticipates offering about 11,000 acres of timber for sale per year. Each year, about 6,300 acres are estimated for clearcut and 4,700 acres for shelterwood. Depending on the contractors' scheduling and the length of timber sale contracts, the actual number of acres cut per year may vary. The District's intent is to plant harvested areas within one year of harvesting. Successful reforestation of all harvested lands is anticipated within five years of harvest.

After a unit is planted, its progress is tracked by several (first, third, and fifth year) regeneration stocking surveys. These surveys use evenly-distributed, systematically-located plots to evaluate reforestation success and to formulate recommendations for further treatments. Although actual number of trees per acre (TPA) is important, the survey is mostly intended to determine the number of well-spaced TPA and to relate this to a fully stocked stand. The ratio of well-spaced TPA to the optimum well-spaced TPA (one tree in each plot) gives the percentage of the unit stocking. A stocking of 60 percent or better is considered adequate (see BLM Manual 5705, OSO supplement).

Two levels of stocking may be considered, target or minimum. The number of acceptable trees per acre for either level depends on the site class (productivity potential) of the unit. For a summary of the District's stocking standards, see Table Sixteen, Appendix B.

With the exception of units classified as site class V (see Glossary, Appendix C), units at target stocking are expected to be precommercially thinned and would be scheduled for commercial thinning at a later date. Units at minimal stocking are expected to forgo commercial thinning.

To ensure adaption, seedlings are selected from seed collected from the same elevation as where the timber harvest occurs. Seedlings are obtained through contracts to both public and private nurseries, with seedling orders made annually in anticipation of the District's reforestation needs for three or more years in advance. If seedling shortages occur for a given year, surplus seedlings are usually available from private or public sources. To date, the District has had ample seedlings available to reforest its harvested lands.

The need for vegetation control activities is determined on a site-by-site basis. For most sites, if seedlings are planted immediately after site preparation (e.g., burning), stocking standards can be achieved without repeated vegetation control. Tree growth, however, is reduced without follow-up control of competing vegetation in new plantations. In instances where only minimal stocking is achieved, the acreage is re-entered into the operational inventory records as acreage where BLM would forgo precommercial and commercial thinning. If no vegetation control activities are possible, the reduced growth is reflected in growth data collected from permanent inventory plots each decade to determine the decadal allowable cut. Where allowable cut credit would have caused increases due to improved growth and vegetation control which later is not achieved, the annual allowable cut is adjusted proportionately (see response to Common Issue 12, "Church Guidelines").

Common Issue 10 (17-5, 33-7): Will there be changes in vegetation structure or composition resulting from the change in harvest ratio of clearcut and shelterwood?

Response: The increase in clearcutting is primarily in the three-stage shelterwood areas created between the 1950s to the 1970s. During that time, the District used the three-stage shelterwood system, relying largely on natural regeneration for reforestation. Subsequent to the entries made at that time, significant understories of brush and other competing herbaceous species developed. Whether or not a regeneration (shelterwood) cut or a clearcut is employed on these sites, the harvest would be followed by site preparation (e.g., burning) and artificial regeneration. Thus, the change in ratio of harvest practices would not change the understory vegetative structure or composition from that expected for the proposed actions in the FEISs.

Common Issue 11 (19-18, 19-39, 19-44, 19-48, 19-59, 38-4, 58-5): Issues were raised regarding the trial harvest program of timber from withdrawn lands.

Response: When the FEISs were completed, the District withdrew about 227,000 acres of commercial forest land from the high intensity forestry land base, which is used to calculate the allowable harvest level. This withdrawn land is comprised of two categories: low intensity lands (103,515 acres), and limited management lands (123,731 acres). While the majority (88 percent) of the withdrawn lands had never been harvested, in 1978 when the withdrawal was made, the reforestation success of the lands that had been harvested was unclear. Concurrent with the decision to withdraw these lands, the District initiated a trial harvest program to evaluate the land's reforestation potential (see Section 1.2.2 of JFEIS and Section 1.2.1.2 of J-KFEIS). Recognizing the significance of the withdrawal of these lands and the complexity of potential reforestation problems in southwest Oregon, several groups joined forces to launch a ten-year, multi-million dollar research program. These groups include the BLM, USFS, local county governments, forest products industry, Oregon State Department of Forestry, and Oregon State University. The BLM's mandate and funding for this research program is found in Public Law 98-146. The Forestry Intensified Research (FIR) program is a cooperative research and technology transfer program directed at solving reforestation problems that have been recognized in southwestern Oregon. The program consists of a "fundamental" or basic research phase and an "adaptive" or technology transfer phase, designed to develop and deliver information. About 60 scientists from Oregon State University and the Pacific Northwest Forest and Range Experiment Station have been involved in the research program.

While the low intensity management lands are the base for the trial harvest program, harvest of timber from limited management lands for research is covered under decision T-3.1 of the Josephine and Jackson-Klamath MFPs. Relative to the trial harvest program, the FEISs anticipated that about 140 MM bd. ft. would be harvested from about 9,900 acres of low intensity land during the decade (Table Seventeen, Appendix B). The District has sold 50.1 MMBF from 3,137 acres of LIM lands to date. Based on current research plans, further scheduled sales of timber from these lands are not anticipated during the remainder of the decade, except for the possibility of small areas (less than 10 acres) that would be included as a part of the logical layout of high intensity harvest units. The reduction in harvested acres to sustain the FIR studies is due to the systematic approach taken by researchers in studying representative problem types of withdrawn lands. Seedling survival under both clearcut and shelterwood harvest systems is being studied. Harvested units are included in ongoing studies undertaken by Helgerson (1981) and Owston (1981).

Common Issue 12 (3-3, 12-2, 16-2, 16-4, 19-9 through 17, 19-19, 19-21, 19-22, 19-23, 19-39, 19-53, 19-61, 26-2, 28-4, 33-3, 38-1, 43-1, 49-3, 53-3, 53-4, 53-7, 54-2, 54-6, 56-1, 58-1, 58-3, 58-4, 58-7, 58-11, 58-12, 60-1, 60-8, 60-10, 63-3, 70-3, 71-1, 71-3, 75-1, 76-7, 76-8, 76-9, 78-4, 78-5, 78-9, 78-14, 78-19): Is the change in harvest practices consistent with the Church Guidelines?

Response: The change in harvest practices is consistent with the Church guidelines. The following is a summary of the District's activities relative to the Church guidelines. The Church Guidelines are in quotations, followed by the BLM response (see Tables Eighteen, Nineteen, and Twenty in Appendix B).

Church Guideline a: "Allowable harvest on Federal forest lands should be reviewed and adjusted periodically to assure that the lands on which they are based are available and suitable for timber production under these guidelines."

Response: Each decade all commercial forest lands in the intensive forest management base are reinventoried. The sustained yield annual allowable harvest is largely dependent upon stocking and measured timber growth rates. At the end of each decade, the allowable cut is determined/adjusted for the following decade. The reinventory process to determine the allowable cut for the 1990s is in progress and scheduled for completion in September of 1988.

Church Guideline b: "Increases in allowable harvests based on intensified management practice such as reforestation, thinning, tree improvement, and the like should be made only upon demonstration that such practices justify increased allowable harvests and there is assurance that such practices are satisfactorily funded for continuation to completion. If planned intensive measures are inadequately funded and thus cannot be accomplished on schedule, allowable harvests should be reduced accordingly."

Response: Since the beginning of this decade, the District's allowable cut has fluctuated in response to available funding for intensive forestry practices. During years when there was no precommercial thinning or fertilization accomplished and when herbicides were not available, reductions in the allowable cut were made. For example, the District's full decadal allowable cut is 2.13 billion bd. ft. or 213 million board feet per year. However, the available intimate knowledge of conditions on the ground." The District has adjusted the amount of acres to be clearcut, because reforestation is more assured under clearcut than shelterwood on most sites. The District's SEIS proposed action has a balance of clearcut and shelterwood harvest acres for the decade.

Church Guidelines g: Clearcutting should be used only where "it is determined to be silviculturally essential to accomplish the relevant forest management objectives."

Response: When compared to the rest of the Pacific Northwest, the southwest Oregon environment is one of extremes. Summers are hot and dry, and many soils are rocky, thus further limiting moisture availability during the growing season. This type of environment together with the competing hardwood and brush species, require high initial stocking to ensure that mortality does not reduce unit stocking below District standards. Silvicultural prescriptions are made on a unit-by-unit basis. Each prescription is site specific. Situations where clearcutting is appropriate have been listed in Chapter I, Section D.1. (Clearcutting/Shelterwood) of this SEIS. Also important is the ecology of Douglas-fir, the District's dominant species. Douglas-fir is a mid-tolerant species that does not perform best under shady or low light intensity environments. Most of the Douglas-fir stands in southwest Oregon were established subsequent to major fires. While more than one age class may exist, most forested stands have an even-age forest formation. The clearcut harvest method most approximates the historical way these stands were established, yields more moisture to seedlings, and helps ensure higher initial survival on most sites compared to shelterwood.

Church Guidelines h: Clearcutting should be used where "the size of the clearcut blocks, patches or strips are kept at the minimum necessary to accomplish silvicultural and other multiple-use forest management objectives."

Response: The main purpose of leaving overstory trees (except where VRM objectives override other silvicultural objectives), is to modify the ground level climate for the planted seedlings. The number of trees reserved per acre is mainly important silviculturally for the survival and growth of the new seedlings.

District records indicate that the average size of BLM clearcuts is 20 acres per unit. Although it is not an absolute limit, the District attempts to limit the size of clearcuts to less than 40 acres unless silvicultural, other resource, or operational (geography) needs dictate otherwise. It is true that some clearcuts are placed adjacent to younger aged plantations that have experienced overstory removal or vice versa, thus changing the "old growth" visual texture. However, these young plantations are forested (be it with smaller trees) and are within the scope of a regulated stand and fit into an intensive forest management framework for sustained yield purposes.

The shelterwood units (de facto clearcuts) currently planned for clearcut harvest were under a three stage shelterwood system between the 1950s and 1970s. The de facto clearcuts have not occurred in units managed under the two-stage shelterwood system as described in the FEISs.

Destruction of advanced regeneration in the de facto clearcuts would not significantly affect the allowable cut. For this decade, it was estimated that the District would accomplish 20,700 acres of successful overstory removal from multi-storied stands releasing advanced reproduction. Thus far, 9,900 acres (48 percent) of the successful overstory removal has been accomplished. Additionally, much of the advanced regeneration that would be destroyed in de facto clearcuts is of very poor vigor. "Overly dense stocking of advanced regeneration, dense residual overstory, suppression from overtopping brush and hardwoods, and heavy vegetative competition were some of the factors commonly associated with low growth or vigor of regeneration." (Stein 1984)

Church Guideline e: Clearcutting should not be used where "esthetic values outweigh other considerations."

Response: Areas where esthetic values outweigh other considerations have been identified through the BLM planning system in the FEISs. These lands have been identified as VRM class 1 lands (e.g., Rogue National Wild and Scenic River, Wild Rogue Wilderness, Soda Mountain WSA [Interim], Mountain Lakes WSA [Interim]). Research natural areas (RNAs) are also included. These lands have been withdrawn from the allowable cut base, and they are not subject to any timber harvest.

In addition, VRM class 2 lands have been identified. These lands are being managed such that timber harvest is not evident to the casual observer. While clearcutting is allowable on these lands, the objective is that clearcuts are not to be evident by retention of the natural appearance of the viewed landscape.

Church Guidelines f: Clearcutting should not be used where "the method (clearcutting) is preferred only because it will give the greatest dollar return or the greatest unit output."

Response: While it is the intention and responsibility of the BLM to administer public lands in a cost-effective way, the adjustment between the number of acres to be clearcut and shelterwood is not based on economics, but rather on environmental and silvicultural reasons. Except on sites where artificial shade alone is inadequate, post-harvest regeneration success is better under clearcut conditions than under shelterwood. Stocking is generally more uniform in clearcuts compared to shelterwoods; more moisture is available on the majority of sites under clearcut situations; site preparation associated with successful reforestation is more assured under clearcut; operational control of competing vegetation under clearcut is more effective; and overstory removal can reduce stocking, significantly undermining the very reason for using shelterwood harvest. It is important to note that the Stein report was not available in 1978 when the FEISs were being prepared. Consequently, the BLM chose to limit the use of the clearcut harvest method due to the uncertainty of the reforestation success on the District at that time. However, Stein concludes, "There are enough clearcut and partial cut examples locally in place now so that a keen observer can get much of his direction from the forest itself. Bluntly stated, it is silviculturally unsound to try to apply only the shelterwood system or the clearcut system when dealing with a forest complex on the District that varies immensely in species composition, age classes, density, topography, soils, climate, vegetative composition, and many other factors. Judicious use must be made of both systems by foresters who have a good technical background and an intimate knowledge of conditions on the ground." The District has adjusted the amount of acres to be clearcut, because reforestation is more assured under clearcut than shelterwood on most sites. The District's SEIS proposed action has a balance of clearcut and shelterwood harvest acres for the decade.

Church Guidelines g: Clearcutting should be used only where "it is determined to be silviculturally essential to accomplish the relevant forest management objectives."

Response: When compared to the rest of the Pacific Northwest, the southwest Oregon environment is one of extremes. Summers are hot and dry, and many soils are rocky, thus further limiting moisture availability during the growing season. This type of environment together with the competing hardwood and brush species, require high initial stocking to ensure that mortality does not reduce unit stocking below District standards. Silvicultural prescriptions are made on a unit-by-unit basis. Each prescription is site specific. Situations where clearcutting is appropriate have been listed in Chapter I, Section D.1. (Clearcutting/Shelterwood) of this SEIS. Also important is the ecology of Douglas-fir, the District's dominant species. Douglas-fir is a mid-tolerant species that does not perform best under shady or low light intensity environments. Most of the Douglas-fir stands in southwest Oregon were established subsequent to major fires. While more than one age class may exist, most forested stands have an even-age forest formation. The clearcut harvest method most approximates the historical way these stands were established, yields more moisture to seedlings, and helps ensure higher initial survival on most sites compared to shelterwood.

Church Guidelines h: Clearcutting should be used where "the size of the clearcut blocks, patches or strips are kept at the minimum necessary to accomplish silvicultural and other multiple-use forest management objectives."

Response: The main purpose of leaving overstory trees (except where VRM objectives override other silvicultural objectives), is to modify the ground level climate for the planted seedlings. The number of trees reserved per acre is mainly important silviculturally for the survival and growth of the new seedlings.

District records indicate that the average size of BLM clearcuts is 20 acres per unit. Although it is not an absolute limit, the District attempts to limit the size of clearcuts to less than 40 acres unless silvicultural, other resource, or operational (geography) needs dictate otherwise. It is true that some clearcuts are placed adjacent to younger aged plantations that have experienced overstory removal or vice versa, thus changing the "old growth" visual texture. However, these young plantations are forested (be it with smaller trees) and are within the scope of a regulated stand and fit into an intensive forest management framework for sustained yield purposes.

The shelterwood units (de facto clearcuts) currently planned for clearcut harvest were under a three-stage shelterwood system between the 1950s and 1970s. The de facto clearcuts have not occurred in units managed under the two-stage shelterwood system as described in the FEISs.

Church Guidelines i: Clearcutting should be used only where "a multidisciplinary review has first been made of the potential environmental, biological, esthetic, engineering, and economic impacts on each sale area."

Response: After a proposed action is developed for each timber sale, each sale area is reviewed by an interdisciplinary team. In this process, specialists in forestry, soils, wildlife, fisheries, cultural resources, and other affected disciplines consider multiple resource values, constraints, and mitigating measures.

Integration of silvicultural, logging, and management objectives occurs in interdisciplinary team meetings, and a silvicultural prescription is developed which identifies the preferred harvest method considering site, biological, and management variables. Additionally, sale areas are reviewed annually to monitor conformance to policy and guidelines and to generally evaluate the implementation process. A sample of both pre-harvest and post-harvest sale areas is reviewed by an interdisciplinary team from the District's staff.

Church Guidelines j: Clearcutting should be used only where "clearcut blocks, patches, or strips are, in all cases, shaped and blended as much as possible with the natural terrain."

Response: BLM emphasis to design timber harvest to blend with the natural terrain has been concentrated on VRM class 2 and class 3 lands. Class 2 lands are managed to meet the objective that timber harvest is not evident to the casual observer. Class 3 lands are managed to meet the objective that timber harvest may be evident to a casual observer, but must be subordinate within the viewed landscape.

Design has not been emphasized for lands having class B and C scenery quality and low public use and sensitivity. These lands have been allocated to VRM class 4 management. Class 4 management objectives allow timber harvest to be evident to the casual observer and to be the dominant feature within the characteristic landscape.

Church Guidelines k: "Federal timber sale contracts should contain requirements to assure that all possible measures are taken to minimize or avoid adverse environmental impacts of timber harvesting even if such measures result in lower net returns to the Treasury."

Response: Contract stipulations (BLM Manual 5424) are available to mitigate potential adverse affects of logging activity. These contract stipulations, along with on-the-ground contract administration, are routine for District timber sales and help assure that adverse environmental impacts are minimized.

Common Issue 13 (19-53, 33-4, 36-2, 43-2, 58-9, 60-12, 75-3, 78-2, 78-10): Several commenters suggested that alternative treatments (e.g., no action, underplanting) should be considered when dealing with the failed shelterwood situation.

Response: Where regeneration exists in partial cut units, leaving heavy overstory volumes is not silviculturally sound. The reproductive size classes would not mature or mature very slowly unless the overstory is removed. In such units, due to the lack of light, moisture and nutrients available to the reproduction, the majority of the reproduction has poor vigor and quality. For example, Stein (1984) reported that over one-third of all partial cut plots he examined contained trees showing a lack of vigor or growth of advanced or post harvest seedlings or both, and that some 10-year-old seedlings were less than one foot high. Similarly, to underplant a non-stocked unit that has too dense an overstory is unproductive. If, however, the TPCC requires a level of protective canopy to modify the environment, the unit would be shelterwood harvested and underplanted. In non-stocked situations where shelterwood is not necessary, and where few overstory trees exist with a heavy component of brush or other competing vegetation, these units can best be prepared for reforestation by clearcutting. In any event, silviculturists examine each unit and make specific prescriptions. Where it is possible to achieve stocking standards by saving advanced reproduction through overstory removal, efforts are made toward that end.

The option of leaving the remaining 8-12 trees per acre after the regeneration cut (see Glossary, Appendix C) is also not desirable, because significant volumes of timber would remain on the site which would ultimately have to be removed later in the rotation. The removal of these large trees would then cause unnecessary damage and volume losses to the smaller commercial-size classes. However, in those areas where visual resource management objectives outweigh other considerations, the overstory trees may be left for a longer period of time. Similarly, where necessary, overstory trees may be left to meet the District's wildlife management objectives.

Common Issue 14 (17-5, 19-7, 19-40, 52-1, 53-3, 53-4, 54-3, 54-5, 54-9, 54-11, 56-3, 78-2, 78-20, 78-23): Several commenters said that the Medford District is in violation of its timber management plans (TMPs).

Response: There has been no change in the decision to offer up to 213 MMBF of timber annually. The silvicultural concept of even-aged management is being continued and accomplished through a combination of clearcutting and two-stage shelterwood systems. Only the ratio of clearcutting to shelterwood and the average number of trees remaining after a shelterwood cut are changing. These changes allow the District to utilize state-of-the-art technology and operational experience to properly and effectively meet timber management plan objectives. Basic aspects of the District's TMPs such as land allocated to timber production and allowable harvest remain the same. Also, no appreciable increase in adverse impacts has been identified, except for estimated increases in air quality impacts in the Josephine SYU. To the extent the change in amount of clearcutting or shelterwood cutting may be considered an adjustment of the District's TMPs, this SEIS and the resulting ROD will correct any deficiency.

Common Issue 15 (19-2, 19-4, 19-21, 19-35, 19-37, 19-55, 19-60, 52-1, 54-7, 54-9, 60-11, 78-1, 78-2, 78-3, 78-21, 78-23, 78-24): Several commenters thought the SEIS should address issues in addition to the change in the ratio of harvest practices and the change from basal area to trees per acre.

Response: Other issues identified by the public at this time, although outside the scope of this document, will be helpful in the next decadal resource management plan's formulation process which is expected to formally begin in 1988.

2. Single Issue Responses

Issue 2-1
Response: See Chapter II, Section A. (Air Quality).

Issue 2-2
Response: See Glossary in Appendix C for the terms "stocked" and "established." The terms "acceptable" or "unacceptable" as they relate to damage of existing regeneration refer to the regeneration stocking survey data. After overstory removal, if the post harvest survey data show that stocking meets or exceeds the stocking standards (target or minimum) of well-spaced trees per acre, then the harvest damage to the remaining regeneration is acceptable. If the post harvest survey results show that stocking does not meet or exceed the stocking standards, then the harvest damage is unacceptable and the unit would receive site preparation and replanting. Stocking standards are explained in BLM Manual 5705-"Regeneration Stocking Surveys." The glossary (Appendix C) has been expanded to include other terms used in the SEIS that may be unfamiliar to the public.

Issue 2-3
Response: See Chapter I, Section E. (Alternatives).

Issue 3-1
Response: The clearcut and shelterwood systems best approximate the historical development of existing Douglas-fir stands. The majority of Douglas-fir stands in southwest Oregon were established as a result of catastrophic fire events. Entire drainages were destroyed and simultaneously re-established with natural regeneration. While there are differences between the number of age classes (1-5) that exist in natural stands, most Douglas-fir stands have an even-aged forest formation lacking intermediate and reproductive size classes. Notable exceptions to this are in areas where other shade-tolerant species (e.g., true fir and hemlock) have established below Douglas-fir canopies. However, the District's dominant species, Douglas-fir, is a mid-tolerant species that requires much light and develops an even-age formation. Clearcutting is a harvest tool that mimics natural reforestation events by establishing units with even-age formation. Also see response to common issue 1 (Erosion and Sedimentation).

Issue 3-2
Response: See response to common issue 4 (Economics).

Issue 3-3
Response: See responses to common issues 9 (Reforestation Activities) and 12"d" (Church Guidelines).

Issue 4-1
Response: Refer to text revision in Chapter II, Section C. (Water Resources) for a discussion of peak flows resulting from timber harvests.

Issue 5-1
Response: See Chapter II, Section C. (Water Resources) of this SEIS for an explanation of changes in water quantity resulting from timber harvests. As long as infiltration rates are not dramatically reduced, the amount of water replenishing the groundwater would temporarily increase after the removal of trees under either a shelterwood or clearcut harvest due to reduced interception and transpiration.

See Chapter II, Section B. (Soils) and response to common issue 1 (Erosion and Sedimentation) regarding erosion. See Chapter II, Section A. (Air Quality) relative to concerns about air pollutants and slash burning.

Issue 6-1
Response: See Chapter 1, Section D.1.a) (Clearcut) and response to common issue 9 (Reforestation Activities).

Issue 6-2
Response: See response to common issue 4 (Economics).

Issue 6-3
Response: See Chapter I, Section D.2. (Trees Left Per Acre Under Shelterwood).

Issue 7-1
Response: See response to common issue 1 (Erosion and Sedimentation).

Issue 8-1
Response: See response to common issue 3 (Economics).

Issue 9-1
Response: See FEISs (J-FEIS, Chapter 3, Pages 3-103, Section 3.3.2 and J-KFEIS, Chapter 3, Pages 3-51, Section 3.8) and response to issue 19-42.

Issue 10-1
Response: The Council on Environmental Quality regulations provide that "any environmental document in compliance with NEPA may be combined with any other agency document to reduce duplication and paperwork" (40 CFR 1506.4). Each timber management plan area has been addressed separately in this SEIS as requested.

Issue 10-2
Response: See Chapter II, Section A. (Air Quality).

Issue 10-3
Response: Oregon's Department of Environmental Quality (DEQ) was notified through the Oregon State Clearinghouse per BLM's agreement with the Clearinghouse.

Issue 10-4
Response: See Chapter II, Section A. (Air Quality).

Issue 12-1
Response: See last paragraph of the introduction to Chapter II concerning cumulative effects.

Issue 12-2
Response: See all responses to common issue 12 (Church Guidelines).

Issue 12-3
Response: See text revision in Chapter II, Section C. (Water Resources).

Issue 13-1
Response: See Chapter II, Section I. (Visual Resources), and response to common issue 7 (Visual and Recreation).

Issue 14-1
Response: See response to common issue 9 (Reforestation Activities).

Issue 14-2
Response: See last paragraph of the introduction to Chapter II concerning cumulative impacts.

Issue 14-3
Response: See text revisions in Chapter II, Section C. (Water Resources) for a discussion of effects of clearcutting on water quality; Section E. (Animals) relative to wildlife; and response to common issue 5 (Aquatic Life).

Issue 16-1
Response: See response to common issue 4 (Economics).

Issue 16-2
Response: See Chapter II, Section I. (Visual Resources) and response to common issue 7 (Visual and Recreation).

Issue 16-3
Response: See Chapter II, Sections C. (Water Resources), I. (Visual Resources), and responses to common issues 12"a", 12"b", and 12"d" (Church Guidelines).

Issue 16-4
Response: See response to common issue 9 (Reforestation) and all responses to common issue 12 (Church Guidelines).

Issue 16-5
Response: Clearcutting will be constrained as provided in the Josephine Management Framework Plan.

Issue 16-6
Response: The District solicits public comments on individual timber sales prior to their offering. Protection of watersheds is addressed in each timber sale environmental assessment, and mitigating measures are incorporated into timber sale contracts to ensure necessary watershed protection.

Issue 16-7
Response: The Josephine Management Framework Plan (MFP) provides for leaving buffer strips along streams. In addition, approximately 40 percent of the Josephine EIS area's forest land is not part of the land base used in calculating the allowable cut and will therefore not be included in any regulated harvest plan.

Issue 17-1
Response: See response to issue 10-1.

Issue 17-2
Response: The text of Chapter II, Section B. (Soils) has been changed to reflect impacts by SYU.

Issue 17-3
Response: See text revision in Chapter II, Section C. (Water Resources) and Tables Twelve and Thirteen (Appendix B) for supporting data regarding increases in water yields.

Issue 17-4
Response: See Chapter II, Sections A. (Air Quality) and E. (Animals). Some of your concerns have already been addressed in the Final EISs for the Josephine and Jackson-Klamath SYUs, especially those relative to the variety of wildlife on the District. A point easily overlooked is the similarity between a clearcut and a shelterwood following overstory removal. In three to five years, the forest structure is essentially the same under either harvest system.

Issue 17-5
Response: See Chapter I, Section D. For your concerns regarding various resources, see Chapter II, Sections A. (Air Quality), D. (Vegetation), and I. (Visual Resources). Also see responses to common issues 5 (Aquatic Life), 10 (Vegetation), and 14 (Timber Management).

Issue 19-1
Response: Availability of the DSEIS for comment was announced nationally through use of the Federal Register and regionally and locally through the mailing list identified on pages 12 and 13 of the draft SEIS and through a local news release. Further public participation was solicited via a public meeting on the draft SEIS and personal contact with most commenters.

Issue 19-2
Response: See response to common issue 15 (Scope of SEIS).

Issue 19-3
Response: See response to issue 19-1.

Issue 19-4
Response: See response to common issue 15 (Scope of SEIS).

Issue 19-5
Response: See summary section.

Issue 19-6
Response: The BLM Medford District believes the process followed has complied with Council on Environmental Quality (CEQ) regulations for preparation of environmental documents. The concerns of small groups of citizens have been expressed to BLM on numerous occasions in the protest and appeal of timber sales and as stated in the response to issue 19-1. The CEQ regulations do not require scoping for a supplemental EIS.

Issue 19-7

Response: This SEIS documents the District's analysis of the situation. An overview of the environmental consequences is found in the summary section. Also see common issue 14 (Timber Management) concerning compliance with timber management plans.

Issue 19-8

Response: See Chapter I, Section D.1. (Clearcut/Shelterwood).

Issue 19-9

Response: See responses to common issues 9 (Reforestation Activities), 12"d" (Church Guidelines), and Table 3, Appendix B.

Issue 19-10

Response: See responses to common issues 12"e", 12"h", and 12"j" (Church Guidelines).

Issue 19-11

Response: Viewshed cumulative impacts would be assessed in individual timber sale EAs. Also see responses to common issues 7 (Visual and Recreation) and 12"e", 12"h", and 12"j" (Church Guidelines).

Issue 19-12

Response: See responses to common issues 12"e", 12"h", and 12"j" (Church Guidelines).

Issue 19-13

Response: See responses to common issues 4 (Economics) and 12"f", 12"i", and 12"k" (Church Guidelines).

Issue 19-14

Response: See all responses to common issue 12 (Church Guidelines).

Issue 19-15

Response: See response to common issue 12"i" (Church Guidelines).

Issue 19-16

Response: Clearcut design emphasis to blend with the natural terrain is dependent on the VRM classifications assigned to the lands in the FEISs. VRM Class 4 lands are considered as least scenic and sensitive to the public in regard to resource development activities. Also see responses to common issues 7 (Visual and Recreation) and 12"j" (Church Guidelines).

Issue 19-17

Response: See responses to common issues 12"a", 12"b", and 12"k" (Church Guidelines).

Issue 19-18

Response: See Chapter I, Section D.; Chapter II; and response to common issue 11 (Trial Harvest Program).

Issue 19-19
Response: See Chapter I, Section D; and response to common issue 12 (Church Guidelines).

Issue 19-20
Response: Timber management plans would be revised during a resource management planning effort expected to begin in 1988.

Issue 19-21
Response: See responses to common issues 12"b" (Church Guidelines) and 15 (Scope of SEIS).

Issue 19-22
Response: See response to common issue 4 (Economics) and common issues 12"f" and 12"i" (Church Guidelines).

Issue 19-23
Response: See responses to common issues 9 (Reforestation Activities), 12"b" and 12"d" (Church Guidelines), and Table 3, (Appendix B).

Issue 19-24
Response: The present management system is a form of ecosystem management in that all successional (seral) stages, each with their own unique structure, are being maintained through time. During development of the next ten-year plan (1988-91), a full ecosystem management alternative may be proposed and developed.

Issue 19-25
Response: The BLM Medford District manages spotted owl habitat ". . . to maintain viable populations by utilizing the best available scientific information to prevent serious depletions of this indigenous species of wildlife" (BLM-ODFW Agreement for Spotted Owl Habitat Management on BLM Lands in Western Oregon, September 26, 1983). District responsibility for continued management will be reviewed in 1988. The District has identified suitable sites for management of an additional five pairs until 1988 to help BLM meet its statewide commitment of 90 pairs.

Your request for no planned timber harvest in old-growth or SOMAs for the next decade is a land use allocation issue which is outside the scope of this supplemental EIS. Land use issues are addressed in the J and J-K MFPs.

Barring a major catastrophe such as a forest fire or massive wind throw, no mortality salvage is planned in any SOMA old-growth habitat. Mortality salvage could be planned on other lands not in the intensive timber base, provided the salvage harvesting meets the objectives for which these lands are being managed.

Issue 19-26
Response: See response to common issue 8 (Withdrawn Areas).

Issue 19-27
Response: Minimum thermal cover is a stand of trees 40 feet high with a 70 percent crown closure. On the Medford District, this is generally achieved within 30 to 40 years following logging.

Issue 19-28
Response: The District is currently managing for a 40 percent population level of cavity dwelling wildlife population on high intensity forest management lands; 60 percent on lands within approximately 200 feet (three chains) of natural meadows; and 100 percent in areas designated for purposes other than timber production (e.g., research natural areas, stream buffers, non-commercial forest lands, and low intensity and limited forest management lands). Over the entire forest base, this would approach the 60 percent level.

Issue 19-29
Response: The Church Guidelines affected wildlife primarily in two ways: (1) The size of clearcuts are kept at the minimum necessary which tends to keep new feeding areas close to cover; and (2) The need is reinforced for a multidisciplinary review of potential environmental impacts on each sale area.

Issue 19-30
Response: The Medford District is actively working with the Oregon Department of Fish and Wildlife, U.S. Forest Service, and the Oregon State Police to establish a road closure program. Subject to District budget constraints, road closures are being established where elk or other resource values are high and need to be protected. Most road closures are initiated in the environmental analysis of site-specifc timber sale areas.

The Medford District funds two deputy sheriffs to patrol District lands.

Issue 19-31
Response: This relationship is still an unknown quantity. No work has been done in the Medford District with seeding favorable species followed by grazing with sheep. Currently, OSU and BLM are beginning a study to look at this relationship using cattle. The environment in the Medford District provides different vegetative competition than found at Alsea, Oregon. At Alsea, the competition is for light, whereas in the Medford District the competition is for moisture.

Issue 19-32
Response: Clearcuts provide a continuing source of openings with forage for deer and elk. Other actions that increase forage include protection and fertilization of natural meadows, road closures, seeding, and scarification of wedgeleaf ceanothus patches.

Issue 19-33
Response: Nest sites and timbered buffers for hawks, eagles, owls, and ospreys are being protected when such species or their habitat are located on or near timber sale areas (see MFP decision numbers J WL-8, 9, and 10, J-K WL-9).

Issue 19-34
Response: See response to common issue 4 (Economics).

Issue 19-35
Response: The BLM has initiated an SEIS process which includes public input (see response to issue 19-1). The FEISs' socioeconomic sections are considered adequate for the ten-year planning period, and there is no need for changing the

analyses with each fluctuation of the timber market. Also see responses to common issues 4 (Economics) and 15 (Scope of SEIS). The socioeconomic situation would be analyzed again during preparation of the District's next ten-year plan.

Issue 19-36
Response: See Chapter I, Section D.

Issue 19-37
Response: See last paragraph of the introduction to Chapter II concerning cumulative effects and response to common issue 15 (Scope of SEIS).

Issue 19-38
Response: The BLM Medford District followed CEQ regulations for preparation of environmental assessments.

Issue 19-39
Response: See Chapter I, Section D; and responses to common issues 11 (Trial Harvest Program), and 12 (Church Guidelines).

Issue 19-40
Response: See response to common issue 14 (Timber Management).

Issue 19-41
Response: See Chapter I, Section D.

Issue 19-42
Response: All timber sale units are field reviewed by trained cultural resource technicians (foresters) capable of identifying surface resource signs. Identified cultural areas are then reviewed by the District archaeologist to determine significance. Compliance with 36 CFR Part 800 would be maintained.

Issue 19-43
Response: VRM Class 3 objectives are to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. BLM's contrast rating system is applied to determine compliance.

Issue 19-44
Response: See Chapter I, Section D; Chapter II, and response to common issue 11 (Trial Harvest Program).

Issue 19-45
Response: This SEIS analyzes the environmental impacts of a change in the clearcut-shelterwood ratio and the number of trees left after the first shelterwood entry.

Issue 19-46
Response: No major additional environmental issues were identified since analysis indicates that, except for air quality in the JSYU, estimated impacts on other resources would be similar to or less than those estimated in the FEISs. See Chapter II (Affected Environment and Environmental Consequences of the

Proposed Action). Regeneration success based on District records is shown on Table Three in Appendix B. Herbicide impacts will be addressed in BLM's final Western Oregon Program-Management of Competing Vegetation Environmental Impact Statement. In the meantime, no herbicides are being used on the BLM Medford District. Also see response to common issue 1 (Erosion and Sedimentation).

Issue 19-47
Response: See Chapter I, Section E. (Alternatives).

Issue 19-48
Response: See Chapter I, Section D; Chapter II; and response to common issue 11 (Trial Harvest Program).

Issue 19-49
Response: See Tables Eighteen and Nineteen in Appendix B.

Issue 19-50
Response: See Chapter II, Section A. (Air Quality).

Issue 19-51
Response: See responses to common issues 12"e", 12"h" and 12"j" (Church Guidelines).

Issue 19-52
Response: See Chapter I, Section D.

Issue 19-53
Response: See Chapter I, Section E. (Alternatives); and responses to common issues 4 (Economics), 12"a" and 12"d" (Church Guidelines), and 13 (Alternatives) and issue 19-35.

Issue 19-54
Response: See Chapter II, Section A. (Air Quality) and response to common issue 9 (Reforestation Activities).

Issue 19-55
Response: See Chapter I, Section E. (Alternatives) and response to common issue 15 (Scope of SEIS).

Issue 19-56
Response: The public was notified of the refinement in computation of annual productive capacity and the elimination of surplus inventory which resulted in a decrease in the volume of timber to be offered during the planning period (see amendment 1 to the RODs for the J and J-K SYUs).

Issue 19-57
Response: See text revision in Chapter II, Section C. (Water Resources) of the FSEIS for clarification of water yield increases.

Issue 19-58
Response: See response to issue 19-42.

Issue 19-59
Response: See Chapter I, Section D.; Chapter II; and response to common issue 11 (Trial Harvest Program).

Issue 19-60
Response: See response to common issue 15 (Scope of SEIS).

Issue 19-61
Response: See Chapter I and all responses to common issue 12 (Church Guidelines).

Issue 21-1
Response: See Appendix E (References Cited).

Issue 21-2
Response: See response to common issue 3 (Economics).

Issue 23-1
Response: See Chapter II, Section A. (Air Quality).

Issue 25-1
Response: See Appendix E (References Cited).

Issue 25-2
Response: See response to common issue 3 (Economics).

Issue 26-1
Response: See response to common issue 7 (Visual and Recreation).

Issue 26-2
Response: See Tables Seventeen, Eighteen, and Nineteen in Appendix B and responses to common issues 3 and 4 (Economics) and 12"a", 12"b", and 12"d" (Church Guidelines).

Issues 28-1 through 28-7
Response: See responses to issues 16-1 through 16-7 as letters 16 and 28 are duplicate letters.

Issue 29-1
Response: See Chapter II, Section A. (Air Quality).

Issue 29-2
Response: See response to common issue 6 (Slash Disposal).

Issue 30-1
Response: See response to common issue 3 (Economics).

Issue 32-1
Response: See response to common issue 3 (Economics).

Issue 33-1
Response: The final SEIS does this.

Issue 33-2
Response: See Chapter I, Section D; Chapter II; and Table Two in Appendix B. Computation data is available at Medford District Office.

Issue 33-3
Response: District resource specialists field review several timber sales each year for compliance with the TMPs. Results of those reviews are available at the District office. Also see Chapter I, Section D. and responses to common issues 9 (Reforestation Activities) and 12"d" (Church Guidelines). Several FIR studies have been referenced in the SEIS text.

Issue 33-4
Response: See Chapter I, Section D, and response to common issue 13 (Alternatives).

Issue 33-5
Response: See Chapter I, Section D.

Issue 33-6
Response: See Chapter I, Section D; Appendix E for Refernces Cited and other appendices for various tables that present data.

Issue 33-7
Response: See Chapter I, Section D and response to common issue 10 (Vegetation).

Issue 33-8
Response: See Glossary, Appendix C, for a definition of the word "skeletal."

Issue 33-9
Response: See Chapter I, Section D.

Issue 33-10
Response: See text of Chapter II, Section B. (Soils). The District is currently cooperating with Pacific Northwest Forest and Range Experiment Station and Oregon State University in a research project designed to quantify burning impacts on soil productivity.

The reduction in the amount of road construction would require less area to be taken out of production to accommodate roads in the ten-year plans.

Issue 33-11
Response: See text revision in Chapter II, Section C. (Water Resources) of this SEIS for supporting data regarding changes in water quantity and water quality.

Issue 33-12
Response: The increase in clearcutting is primarily in the shelterwood areas created between the 1950s and 1970s. During that time, the District used the three-stage shelterwood system relying largely on natural regeneration for reforestation. Subsequent to the entries made at that time, significant understories of both brush and other competing herbaceous species developed. Whether or not a regeneration cut or clearcut is employed, both are followed by site preparation activities and artificial regeneration. Consequently, neither a

shift in the amount of trees to be left standing after a regeneration cut, or an increase in clearcut acreage would significantly change the understory vegetation structure or composition from that expected in the FEISs.

Issue 33-13
Response: The text has been expanded to discuss non-game and long-term impacts. See Chapter II, Section E. (Animals).

Issue 33-14
Response: See response to common issue 1 (Erosion and Sedimentation).

Issue 33-15
Response: See Chapter II, Sections G. (Recreation) and I. (Visual Resources).

Issue 34-1
Response: See responses to common issue 7 (Visual and Recreation) and issues 19-12 and 26-1.

Issue 35-1
Response: See Chapter I, Section D.1. for a discussion of changes in the clearcut/shelterwood ratio.

Issue 35-2
Response: See last paragraph of the introduction to Chapter II concerning cumulative impacts.

Issue 36-1
Response: See explanation in Preface.

Issue 36-2
Response: See response to common issue 13 (Alternatives).

Issue 36-3
Response: Environmental effects are addressed on two levels, the entire timber management plan area through the FEISs and later at the project level, such as a timber sale, through an environmental assessment which addresses the site specific impacts (Section 1.8.4, pages 1-63 of the Josephine FEIS and Section 1.5.3, pages 1-46 and 1-47 of the Jackson/Klamath FEIS).

Issue 36-4
Response: The allowable cut is not being changed, and the environmental impacts resulting from the adjustments in the ratio of shelterwood and clearcut harvest are generally unchanged from those described for the proposed action (eventual decision) of the FEISs. Also see Chapter I, Section D.1.a. (Clearcut) for reasons for clearcutting mature trees in planted areas.

Issue 37-1
Response: See responses to common issues 7 (Visual and Recreation) and 12"e", 12"h" and 12"j" (Church Guidelines).

Issue 37-2
Response: See response to common issue 1 (Erosion and Sedimentation) relevant to watershed impacts. Chapter II, Section E. (Animals), the text concerning impacts of increased clearcutting acreage on wildlife species, has been expanded.

See responses to common issues 7 (Visual and Recreation) and 12"e", 12"h" and 12"j" (Church Guidelines) that address impacts to recreational and visual resources.

Issue 38-1
Response: See all responses to common issue 12 (Church Guidelines).

Issue 38-2
Response: See Chapter 1, Section B (Statutory Authority).

Issue 38-3
Response: See last paragraph of the introduction to Chapter II concerning cumulative effects.

Issue 38-4
Response: See responses to common issues 9 (Reforestation Activities) and 11 (Trial Harvest Program) and issue 33-3.

Issue 38-5
Response: See response to issue 5-1.

Issue 38-6
Response: See Chapter II, Section A. (Air Quality).

Issue 38-7
Response: See Chapter I, Section D.1.a) (Clearcut).

Issue 38-8
Response: The Medford District's timber management program does consider the factors you list. See Chapter II, Sections A. (Air Quality) and I. (Visual Resources); responses to common issues 1 (Erosion and Sedimentation), 2 (Stream Protection), and 7 (Visual and Recreation); and responses to issues 17-4, 37-2, and 50-1.

Issue 39-1
Response: See response to common issue 3 (Economics).

Issue 40-1
Response: The resources you listed are among those considered in analyzing the District's timber harvest.

Issue 41-1
Response: See response to common issue 1 (Erosion and Sedimentation) for a discussion of effects clearcutting has on watersheds. Long-term effects are addressed in Chapter 6 of the Josephine and the Jackson-Klamath FEISs.

Issue 42-1
Response: See response to common issue 9 (Reforestation Activities).

Issue 42-2
Response: See Chapter II, Section A. (Air Quality).

Issue 43-1
Response: See Chapter I, Section D and responses to common issues 9 (Reforestation Activities) and 12"a", 12"b", 12"d", and 12"g" (Church Guidelines).

Issue 43-2
Response: See Chapter I, Section D. (Description of the Proposed Action) and response to common issue 13 (Alternatives).

Issue 43-3
Response: See Chapter II., Section A. (Air Quality) and response to common issue 6 (Slash Disposal).

Issue 43-4
Response: See text revision in Chapter II, Section C. (Water Resources) for an explanation of water yield increases resulting from timber harvest. Also see responses to common issues 2 (Stream Protection) and 5 (Aquatic Life).

Issue 44-1
Response: See response to common issue 3 (Economics).

Issue 45-1
Response: See response to common issue 3 (Economics).

Issue 46-1
Response: See Chapter II, Section A. (Air Quality).

Issue 46-2
Response: See response to common issue 3 (Economics).

Issue 47-1
Response: See response to common issue 3 (Economics).

Issue 48-1
Response: See responses to common issue 1 (Erosion and Sedimentation) and 7 (Visual and Recreation).

Issue 49-1
Response: See the Preface and the response to issue 36-4.

Issue 49-2
Response: See Chapter II, Section C. (Water Resources) for a discussion of impacts to water resources from timber harvest activities. For other resource concerns you have, see Chapter II, Section I. (Visual Resources) and responses to common issues 1 (Erosion and Sedimentation) and 4 (Economics) and issue 50-1.

Issue 49-3
Response: See all responses to common issue 12 (Church Guidelines).

Issue 50-1
Response: Visual and recreational resource values would continue to be protected and managed in accordance with the Josephine MFP and Jackson-Klamath MFPs and Chapter II, Section I. (Visual Resources). Also see response to common issue 7 (Visual and Recreation).

See Chapter II, Section C. (Water Resources) for a discussion of impacts to watersheds. Wildlife concerns are addressed in Chapter II, Section E. (Animals) and response to issue 17-4.

Issue 50-2
Response: See the Preface and response to issue 36-4.

Issue 52-1
Response: See response to common issues 14 (Timber Management) and 15 (Scope of SEIS).

Issue 52-2
Response: See last paragraph of the introduction to Chapter II concerning cumulative effects.

Issue 52-3
Response: The Medford District is promoting more discussion and dialogue with concerned groups.

Issue 53-1
Response: See Chapter I, Section D.

Issue 53-2
Response: See Chapter 1, Section D.1.b) (Shelterwood) and Section D.2. (Trees Left Per Acre Under Shelterwood Systems).

Issues 53-3
Response: See responses to common issues 12"a" and 12"b" (Church Guidelines).

Issue 53-4
Response: See responses to common issues 12"c" (Church Guidelines) and 14 (Timber Management).

Issue 53-5
Response: The allowable cut is calculated for each sustained yield unit based on the total acres available for timber production (high intensity management lands). The timber production base is determined through the timber production capability classification (TPCC) intensive inventory process (BLM-5250 "Intensive Inventories").

Issue 53-6
Response: See response to common issue 9 (Reforestation Activities) and Tables Nineteen and Twenty, Appendix B.

Issue 53-7
Response: See responses to common issues 9 (Reforestation Activities), 12"d" (Church Guidelines), and Table Three, Appendix B.

Issue 53-8
Response: EAs are amended when changes occur which warrant additional analysis.

Issue 53-9
Response: See Chapter I, Section D.1.a) (Clearcut). See last paragraph of the introduction to Chapter II concerning cumulative effects.

Issue 53-10
Response: See Chapter I, Section F.2. (Monitoring and Studies).

Issue 54-1
Response: See Preface.

Issue 54-2
Response: See all responses to common issue 12 (Church Guidelines).

Issue 54-3
Response: See response to common issue 14 (Timber Management).

Issue 54-4
Response: See Chapter II, Sections A. (Air Quality), B. (Soils), C. (Water Resources), I. (Visual Resources), and responses to issues 19-43 and 50-1.

Issue 54-5
Response: See reponse to common issue 14 (Timber Management).

Issue 54-6
Response: See responses to common issues 9 (Reforestation Activities), 12"b" (Church Guidelines), and Table Nineteen, Appendix B.

Issue 54-7
Response: See response to common issue 15 (Scope of SEIS) and issue 19-25.

The BLM Medford District's current land use plans (management framework plans), were completed in 1979 and 1980, and will be in effect until replaced by new land use plans (resource management plans).

Issue 54-8
Response: See Chapter II.

Issue 54-9
Response: See Chapter I, Section E. (Alternatives), responses to common issues 14 (Timber Management) and 15 (Scope of SEIS) and issue 19-1.

Issue 54-10
Response: The information has now been discussed separately. Impacts to air quality are included in Chapter II, Section A. (Air Quality).

Issue 54-11
Response: See Preface and response to common issue 14 (Timber Management).

Issue 54-12
Response: Protection for federally listed species under the Endangered Species Act remains the same as discussed in the Final Josephine and Jackson-Klamath Timber Management EISs. See responses to issues 17-4 and 19-24 through 19-33.

Issue 54-13
Response: Although not available for mailing with the draft SEIS, copies of the FEISs were available for review at the Medford District office. Also, over the years, copies have been sent to public libraries, interested groups and organizations, governmental agencies, people who commented on the final EISs, and individuals upon request until the supply of several hundred documents was exhausted.

Issue 55-1
Response: See response to common issue 3 (Economics).

Issue 56-1
Response: See responses to common issues 12"a", 12 "b", and 12"d" (Church Guidelines) and Table Nineteen, Appendix B.

Issue 56-2
Response: The impacts relevant to the change in harvest ratio are addressed in Chapter II (Affected Environment and Environmental Consequences of the Proposed Action). Common issue 1 (Erosion and Sedimentation) also addresses impacts of clearcutting on soil erosion.

The majority of the Medford District lies within what is termed a rain-dominated hydrologic system (Harr 1979). Large snowpacks are found in snow-dominated regions such as the Sierras and Rocky Mountains. The Medford District has some areas of shallow snowpacks in the Cascades which tend to cause two peak flows annually. The first peak flow results from fall and early winter rains and the second results from spring melt of winter snow. When portions of watersheds in the snow regions are clearcut, the timing of peak flows would be altered by causing the snowpack to become streamflow earlier in the season. This actually desynchronizes the timing of the spring peak flow, resulting in two smaller peak flows in the spring rather than one large peak flow. Consequently, there would be a reduction in any downstream flooding.

Issue 56-3
Response: See Preface and the response to common issue 14 (Timber Management).

Issue 56-4
Response: See response to common issue 9 (Reforestation Activities).

Issue 58-1
Response: See responses to common issues 12"a" and 12"b" (Church Guidelines).

Issue 58-2
Response: The Josephine and Jackson-Klamath Timber Management Plans have been implemented. This SEIS is supplemental to, not tiered to the FEISs. In any case, the CEQ regulations clearly provide that tiering is appropriate when the analysis is a supplement to an earlier EIS. The CEQ regulations do not make implementation of the earlier EISs a pre-requisite to its use in tiering (40 CFR 1502.20 and 1508.28).

Issue 58-3
Response: See response to common issue 12"b" (Church Guidelines) and Tables Nineteen and Twenty, Appendix B.

Issue 58-4
Response: See all responses to common issue 12 (Church Guidelines).

Issue 58-5
Response: Clearcutting on low and limited intensity lands is done in connection with the Forestry Intensified Research Program (see Chapter I, Section D.). Also, see response to common issue 11 (Trial Harvest Program).

Issue 58-6
Response: See Chapter I, Section D.1.

Issue 58-7
Response: See Chapter I, Section D. and responses to common issues 9 (Reforestation Activities) and 12"d" and 12"g" (Church Guidelines).

Issue 58-8
Response: See Chapter I, Section D and response to common issue 9 (Reforestation Activities).

Issue 58-9
Response: See response to common issue 13 (Alternatives).

Issue 58-10
Response: See Chapter I, Section D and response to common issue 9 (Reforestation Activities).

Issue 58-11
Response: See Chapter I, Section D.1., and response to common issue 12"g" (Church Guidelines).

Issue 58-12
Response: Visual resources will be protected according to management classifications identified in the FEISs. See response to issue 58-5. In addition, approximately forty percent of District forest lands are not part of the land base used in calculating the allowable cut. Also see Chapter I, Section D.1.b) (Shelterwood) and responses to common issues 8 (Withdrawn Areas) and 12 (Church Guidelines) regarding the value of shelterwood system for silvicultural and non-timber resources.

Issue 58-13
Response: See Chapter I, Section D. (Description of the Proposed Action).

Issue 58-14
Response: See Chapter I, Section I.D.2.

Issue 58-15
Response: This situation has been changed in this final SEIS.

Issue 58-16
Response: See response to common issue 1 (Erosion and Sedimentation). Site specific impacts greater than those contained in the FEISs and this SEIS would be addressed in the timber sale EAs.

Issue 58-17
Response: Tables Ten through Fifteen in Appendix B provide a comparison in impacts between this SEIS and the FEISs.

The maps of proposed timber sales included in the FEISs were only for illustrative purposes, showing graphically an example of a typical sale plan. Each year, a formal timber sale plan is made available to the public and is consistent with the example shown in the FEISs.

Issue 58-18
Response: See text revision in Chapter II, Section C. (Water Resources) for an explanation of the percentage figures used to calculate the increases in water yield.

Issue 58-19
Response: The assumption that water yields from the proposed shelterwood harvest acres would increase by 40 percent is incorrect. See Chapter II, Section C. (Water Resources) for an explanation.

Issue 58-20
Response: The increases in water yield were calculated over the entire JSYU and J-KSYU to compare the results with the FEISs.

Issue 58-21
Response: See response to common issue 2 (Stream Protection).

Issue 58-22
Response: Impacts specific to given watersheds will be addressed in timber sale EAs for affected watersheds. See the last paragraph of the introduction of Chapter II concerning cumulative effects.

Issue 58-23
Response: See response to issue 50-1.

Issue 59-1
Response: The functions of the organic matter in the forest ecosystem are many and include the following: to bind mineral soil together to reduce erosion, to provide nutrients, to absorb moisture and retard evaporation, and to moderate

soil temperature. One objective of both shelterwood and clearcut harvesting is to retain as much organic matter on the site as possible while still providing access to tree planters.

Issues 59-2
Response: See Chapter I, Section D; and Chapter II, Section A. (Air Quality).

Issue 60-1
Response: See Chapter I, responses to common issues 12"a" and 12"b" (Church Guidelines), and Tables Nineteen and Twenty (Appendix B).

Issue 60-2
Response: Harvest methods are project design features described in Chapter 1 of each FEIS.

Issue 60-3
Response: A reduction in miles of road constructed would result in a similar reduction in erosion and loss of soil productivity caused by road construction. Road construction has been shown to increase erosion rates 220 times over background rates based on research in Idaho on granitic soils (page 3-7, JFEIS). These soils, however, are more erodible than the majority of soils on the District.

Issue 60-4
Response: For soils impacts, see Chapter II, Section B. (Soils), and pages 3-11 through 3-24 of the JFEIS and pages 3-5 through 3-9 of the J-K FEIS.

See text revision in Chapter II, Section C. (Water Resources) for a discussion of summer streamflow, sedimentation, and temperature changes.

Chapter II, Section E. (Animals), has been expanded to discuss impacts to small game and non-game wildlife.

Issue 60-5
Response: See Chapter I., Section D. (Description of the Proposed Action).

Issue 60-6
Response: See Table Eighteen of Appendix B.

Issue 60-7
Response: The timber production base is all the commercial forest land used to produce timber on a sustained yield basis and is the acreage base used to compute the allowable cut. This base is determined through the timber production capability classification (TPCC) inventory process. The two most critical elements that influence the magnitude of the allowable cut are total wood volume and annual wood growth. As older stands are harvested and replaced with vigorous young growth stands, two things occur: the total wood volume would be reduced as timber is removed, but total annual growth would increase over time. When total growth exceeds the allowable cut, indications are that the cut could be theoretically increased if all other factors were to remain constant.

Issue 60-8
Response: See all responses to common issue 12 (Church Guidelines).

Issue 60-9
Response: Site specific environmental analysis would determine any need for cutting limitations due to the combined effects of neighboring actions.

Issue 60-10
Response: See response to common issue 12"b" (Church Guidelines) and Table Nineteen, Appendix B.

Issue 60-11
Response: See Chapter I, Section E. (Alternatives) and response to common issue 15 (Scope of SEIS).

Issue 60-12
Response: See Chapter I, Section E. (Alternatives) and response to common issue 13 (Alternatives).

Issue 61-1
Response: See response to common issue 3 (Economics).

Issue 63-1
Response: See Chapter II.

Issue 63-2
Response: See Chapter II, Section A. (Air Quality).

Issue 63-3
Response: See Chapter I, Section D, responses to common issues 9 (Reforestation Activities), 12"d" (Church Guidelines), and Table Twenty (Appendix B).

Issue 65-1
Response: See responses to issues 17-4, 19-24 through 19-33, and 54-12. There generally is no shortage of forage except during times of deep or prolonged snows. However, the quality of forage, especially its nutritional value, often is a problem during winter months. Clearcutting followed by slash burning increases the nutritional level of forage by releasing nutrients and by increasing the amount of sunlight on the new plants.

Issue 65-2
Response: See last paragraph of the introduction to Chapter II, concerning cumulative effects.

Issue 66-1
Response: See common issue 3 (Economics).

Issue 67-1
Response: See response to common issue 3 (Economics).

Issue 69-1
Response: See response to common issue 3 (Economics).

Issue 70-1
Response: See Chapter I, Section D (Description of the Proposed Action) and response to common issue 3 (Economics).

Issue 70-2
Response: See Tables One, Seventeen, Eighteen, and Twenty in Appendix B.

Issue 70-3
Response: See Chapter I, Section D. (Description of the Proposed Action) and responses to common issues 9 (Reforestation Activities) and 12"d" (Church Guidelines).

Issue 70-4
Response: See Chapter II, Section A. (Air Quality).

Issue 70-5
Response: See response to issue 33-10.

Issue 70-6
Response: See Chapter I, Section D. (Description of the Proposed Action).

Issue 71-1
Response: See all responses to common issue 12 (Church Guidelines).

Issue 71-2
Response: See Chapter I, Section E. (Alternatives).

Issue 71-3
Response: See Chapter I, Section D. (Description of the Proposed Action) and responses to common issues 9 (Reforestation Activities) and 12"d" (Church Guidelines). For a bibliography, see Appendix E (References Cited).

Issue 75-1
Response: See Chapter I, Section D. (Description of the Proposed Action) and responses to common issues 9 (Reforestation Activities) and 12"d" (Church Guidelines).

Issue 75-2
Response: See Table Eighteen (Appendix B).

Issue 75-3
Response: See Chapter I, Section E. (Alternatives) and response to common issue 13 (Alternatives).

Issue 75-4
Response: See response to common issue 4 (Economics).

Issue 76-1
Response: See Chapter I, Sections A. (Purpose and Need) and D. (Description of the Proposed Action).

Issue 76-2
Response: See Preface and Chapter 1, Sections A. (Purpose and Need), and E. (Alternatives).

Issue 76-3
Response: Lands suitable for high, low, and limited timber management are shown on maps in the FEISs. For analysis purposes, an estimate of these lands which are suitable for clearcutting was made. Specific areas to be clearcut will be determined by the silvicultural prescription for each timber sale. Site specific impact analyses are documented in the timber sale EAs (see Requirements for Further Environmental Assessment, page 1-46 of the Jackson-Klamath FEIS and page 1-63 of the Josephine FEIS and Chapter I, Section F.3. (Requirements for Further Environmental Analysis) of this FSEIS. Also see the last paragraph of the introduction to Chapter II concerning cumulative effects.

Issue 76-4
Response: Both forage quantity and quality are greater in clearcuts than in shelterwood since ground vegetation receives more sunlight and does not have to compete with trees for nutrients and water. Forage areas near cover are preferred so animals can quickly enter cover to escape predation or harassment. The optimum spacing of forage and cover is not, however, strictly a distance function. Benches, slopes, aspects, draws, ridges, and other factors such as disturbance would influence the distance animals would forage from cover. In general, forage use starts to decrease about 200 feet from cover and declines rapidly beyond 600 feet from cover. The size of clearcuts are kept at the minimum necessary to accomplish multiple-use management objectives, generally less than 40 acres in size.

The majority of the District is inhabited by black-tailed deer. Mule deer predominate on the eastern edge of the District; however, there is considerable overlap, especially in the Klamath Resource Area. Relative to the Alaska studies, the differences in location and severity of climate between Alaska and southwest Oregon would make comparisons tenuous at best. District analysis of elk use includes direct observations, indirect indices (e.g., pellet groups and tracks), walking routes, and spotlight transects, all done on the District over a period of years.

Issue 76-5
Response: See response to issue 17-4.

Issue 76-6
Response: The proposed action in the SEIS would reduce the number of acres impacted Districtwide from timber harvest by 12,700 acres. These acres would be available as old growth and mature forest habitat through this planning cycle. This would benefit old growth dependent wildlife species (see response to comment 19-28 for snag management). Snag retention would be monitored during timber sale reviews following completion of logging.

Issue 76-7
Response: The ecological changes resulting from the shift in harvest practices identified in the SEIS would not be significantly different than those addressed in the FEISs. In the FEISs, the overstory left after the regeneration cut would be removed an estimated three to five years subsequent to successful reforestation. Consequently, whether or not the area is initially shelterwood

cut as described in the FEISs, the overstory-understory relationship would resemble a clearcut in three to five years. The estimated reduction in harvested acres (12,700) estimated in the SEIS, would enhance the ecology of old-growth overstory-understory relationships.

Issue 76-8
Response: See response to common issue 2 (Stream Protection).

Issue 76-9
Response: See Chapter I, Section D and responses to common issues 3 and 4 (Economics), 9 (Reforestation Activities), and 12"b" (Church Guidelines).

Issue 77-1
Response: See Chapter II, Section C. (Water Resources).

Issue 78-1
Response: See response to common issue 15 (Scope of SEIS).

Issue 78-2
Response: See Chapter I, Section E. (Alternatives) and responses to common issues 13 (Alternatives), 14 (Timber Management), and 15 (Scope of SEIS).

Issue 78-3
Response: See Chapters I and II and response to common issue 15 (Scope of SEIS).

Issue 78-4
Response: See Chapter I, Section D. (Description of the Proposed Action); and responses to common issues 9 (Reforestation Activities) and 12"b" (Church Guidelines). The study was available to public review during the comment period and is still available.

Issue 78-5
Response: See Chapter I, Section D. (Description of the Proposed Action), and Appendix E (References Cited).

Issue 78-6
Response: See responses to common issues 9 (Reforestation Activities) and 12"b" (Church Guidelines).

Issue 78-7
Response: The recommended watershed practices in the MFPs (also identified in FEISs) are guidelines to be used in conjunction with on-site investigations. One or more practices may be analyzed through the environmental analysis process and incorporated into the timber sale contract. Adverse impacts from clearcutting on slopes exceeding 70 percent may be reduced to acceptable levels by such practices as utilizing partial or complete suspension during yarding and/or achieving a cool burn or not burning. Sites that would receive unacceptable damage if clearcut would be shelterwood cut or withdrawn from the timber base through the inventory process.

Issue 78-8
Response: See Chapter I, Section D.1.

Issue 78-9
Response: See Chapter I, Section D. (Description of the Proposed Action) and responses to common issues 9 (Reforestation Activities) and 12"d" (Church Guidelines).

Issue 78-10
Response: See Chapter I, Section D. (Description of Proposed Action) and responses to common issues 9 (Reforestation Activities) and 13 (Alternatives).

Issue 78-11
Response: See Chapter II, Section A. (Air Quality).

Issue 78-12
Response: See response to common issue 4 (Economics).

Issue 78-13
Response: Timely regeneration of a harvested area is one of the many assumptions of a harvest plan. A regeneration period of four years was recognized for the existing (1980s) allowable cut (pp. 1-13, section 1.5.3, JFEIS and pp. 1-20, section 1.2.6.1, J-KFEIS).

The "harvest and plant" practice is the base allowable cut level. As additional intensive management practices (e.g., thinnings) are implemented, the potential harvest level is increased. Table 1-7, J-KFEIS, shows only a quantitative measure attributable to each practice relative to the planned silvicultural treatments shown in Table 1-1, J-KFEIS.

Issue 78-14
Response: See responses to common issues 3 (Economics) and 12"i" and 12 "k" (Church Guidelines).

Issue 78-15
Response: The text of Chapter II, Section B. (Soils) has adequately addressed impacts of clearcutting and road construction.

Issue 78-16
Response: See response to issue 33-11.

Issue 78-17
Response: See Chapter II, Section B. (Soils) for a discussion on the impacts of burning on soil productivity and erosion. Also, see response to common issue 1 (Erosion and Sedimentation).

Issue 78-18
Response: Table 1-7 (J-KFEIS) displays the quantitative contribution towards the allowable cut for control of gophers. If gopher control were eliminated, the allowable cut would be reduced. Similarly, when other intensive practices (precommercial thinning and herbicides) are not implemented to full levels, the allowable cut is reduced. See Table Nineteen of Appendix B.

Issue 78-19
Response: See responses to common issues 9 (Reforestation Activities) and 12"a" and 12"b" (Church Guidelines).

Issue 78-20
Response: See response to common issue 14 (Timber Management).

Issue 78-21
Response: See Chapters I and II and response to common issue 15 (Scope of SEIS).

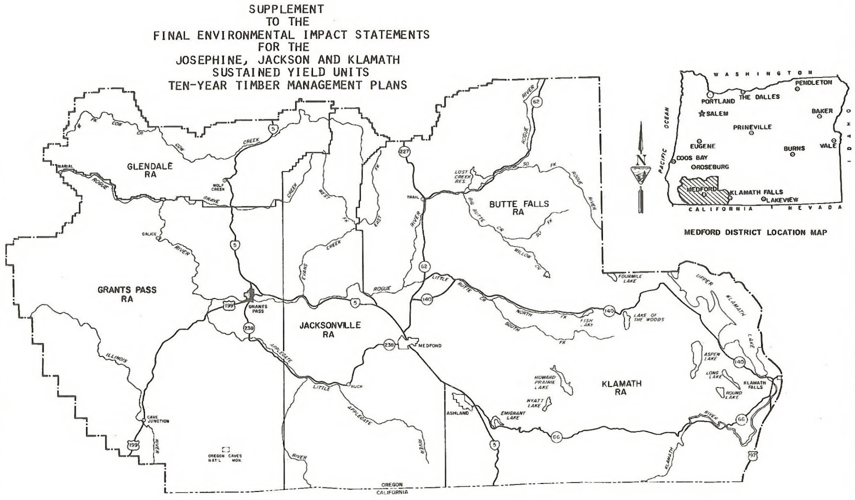
Issue 78-22
Response: See Chapter II (Affected Environment and Environmental Consequences of the Proposed Action) for a comparison of impacts.

Issue 78-23
Response: See responses to common issues 14 (Timber Management) and 15 (Scope of SEIS).

Issue 78-24
Response: See response to common issue 15 (Scope of SEIS).

Issue 79-1
Response: See response to common issue 3 (Economics).

Issue 80-1
Response: See Chapter II, Section A. (Air Quality).



VICINITY MAP

APPENDIX B

Tables

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TABLE ONE

Decadal Acreage Estimates

Activity	Josephine SYU Proposed Action FEIS 1/	 (SEIS)	Jackson/Klamath SYUs Proposed Action FEIS 1/	 (SEIS)	District Totals Proposed Action FEIS	 (SEIS)
Clearcut						
-Initial Entry	5,000	8,800	4,000	4,700	9,000	13,500
-De facto	-	25,000	-	16,800	-	41,800 3/
TOTAL CLEARCUT	5,000	33,800	4,000	21,500	9,000	55,300 5/
Shelterwood						
-Regeneration Cut	41,000	4,100	27,200	13,200	68,200	17,300 4/
-Overstory Removal	9,000	8,100	32,800	25,600	41,800	33,700
TOTAL SHELTERWOOD	50,000	12,200	60,000	38,800	110,000 2/	51,000 6/
TOTAL HARVEST	55,000	46,000 7/	64,000	60,300 7/	119,000	106,300 7/

1/ Figures from Tables 1-1 of the Josephine and Jackson/Klamath Timber Management Environmental Statements (FEISs).

2/ Acreage originally included as previous entry shelterwood in the FEISs, 33,700 for regeneration cut and 8,100 for overstory removal.

3/ Acreage identified for both previous-entry and initial-entry shelterwoods in the FEISs.

4/ Includes only initial entry shelterwoods.

5/ Includes the 701 acres from the Trial Harvest Program (see Table Seventeen).

6/ Includes the 2,436 acres from the Trial Harvest Program (see Table Seventeen).

7/ Estimates based on accomplishments (80-84) and projections from the five-year timber sale plan for the remainder of the decadal plan (85-89 JSYU and 85-90 J-KSYU). See Table Eighteen for timber sale accomplishments.

TABLE TWO

Road Construction Projections

Josephine Sustained Yield Unit
FY 80-89

FEIS Proposed Action		SEIS Proposed Action 1/	
(Miles)	(Acres)	(Miles)	(Acres)
500	4,340	360	3,125

Jackson-Klamath Sustained Yield Units
FY 81-90

FEIS Proposed Action		SEIS Proposed Action 1/	
(Miles)	(Acres)	(Miles)	(Acres)
375	1,770	350	1,652

Total	875	6,110	710	4,777

1/ Estimates based on accomplishments (80-84) and projections from five-year timber sale plan for remainder of decadal plan (85-89 JSYU and 85-90 J-KSYUs).

TABLE THREE

Reforestation Data

A. Stocking analysis by harvest type (acres)

Harvest Action	Under 1/ Stocked	Stocked Unestablished 2/		Stocked Established 3/		Total
		Minimum	Target	Minimum	Target	
Clearcut	4,222	1,426	9,154	2,779	14,503	32,084
Partial Cut	3,062	821	9,802	319	3,287	17,291
Backlog 4/	2,701	466	3,258	1,417	3,513	11,355
Other 5/	396	299	1,911	118	1,285	4,009
Total	10,381 (16%)	3,012	24,125	4,633	22,588	64,739
		27,137 (42%)		27,221 (42%)		

1/ See Glossary.
2/ See Glossary.
3/ See Glossary.
4/ Includes: (1) 7,833 acres of plantable backlog; grass-brushfield reclamation, hardwood and non-commercial conifer conversion (2) 3,522 acres of successful conversion and acceptance of a backlog unit.
5/ Includes units denuded by fire, insects, disease, and animals.

B. Stocking analysis by planting fiscal year: 1979 - 1984

Fiscal Year	Acres Planned	Understocked		Stocked	
		Acres	Percent	Acres	Percent
1979	5,558	449	8	5,109	92
1980	6,321	570	9	5,751	91
1981	6,858	274	4	6,584	96
1982	4,902	194	4	4,708	96
1983	4,126	39	1	4,087	99
1984	6,755	319	5	6,437	95
Total	34,520	1,845		32,676	

Sources: A. Tabulated from all units except initial survey currently in the Reforestation Record Card System (STORMS). Data from the March 1985 computer data file (MEDRR) was used for the analysis.
B. Resource Area - Medford District.

TABLE FOUR

Gross Acres of Site Preparation Accomplished to 1984 and Estimated for Remaining of Decade

	Site Prep Acres Accomplished	Percent of Total Accomplished	1/ Site Prep Acres Projected	Percent of Total Projected	Percent 2/ of Total Burned Projected
DISTRICT					
Broadcast Burn	10,772	27	27,850	42	76
Tractor Pile	5,622	14	3,436	5	9
Hand Pile	1,070	3	5,439	8	15
No Burn	22,036	56	30,075	45	--
Total	39,500	100	66,800	100	100
JOSEPHINE					
Broadcast Burn	5,639	37	16,587	54	98
Tractor Pile	1,254	8	3/	3/	3/
Hand Pile	133	1	274	1	2
No Burn	8,174	54	13,939	45	--
Total	15,200	100	30,800	100	100
JACKSON-KLAMATH					
Broadcast Burn	5,133	21	11,263	31	57
Tractor Pile	4,368	18	3,436	10	17
Hand Pile	937	4	5,165	14	26
No Burn	13,862	57	16,136	45	--
Total	24,300	100	36,000	100	100

1/ From five year timber sale plan.
2/ Excluding no burn acres.
3/ Less than one.

TABLE FIVE

Analysis of District Burn Program

	JSYU	J-KSYU	District
1. Estimated Acres to Burn (FEISs)	10,000	23,700	33,700
2. Actual Acres Burned through FY84	4,934	4,862	9,796
3. Estimated Acres Remaining to be Burned (SEIS) 1/	14,105	10,055	24,160
4. Total Acres Estimated to be Burned for Decade 2/	19,039	14,917	33,956
5. Estimated Percent Change Over FEISs 3/	+ 90.4%	- 37.1%	+ 1.0%
6. Estimated FEIS Acres Burned/Year	1,000	2,370	3,370
7. Actual Acres Burned/Year Through FY84 4/	987	1,216	2,203
8. SEIS Estimated Acres to Burn/Year (FY85 to end of decade) 5/	2,821	1,676	4,497
9. Percent Change Over FEIS Acres/Year	+ 182.0%	- 29.4%	+ 33.4%

1/ From Table 6 Appendix B.

2/ Row 2 and Row 3 = Row 4.

3/ $\frac{\text{Row 4} - \text{Row 1}}{\text{Row 1}} \times 100\%$ = JSYU $\frac{\text{Row 1} - \text{Row 4}}{\text{Row 1}} \times 100$ = J-KSYUs

4/ For JSYU $\frac{\text{Row 2}}{\text{5 years}}$ for JKSYUs $\frac{\text{Row 2}}{\text{4 years}}$

5/ For JSYU $\frac{\text{Row 3}}{\text{5 years}}$ for JKSYUs $\frac{\text{Row 3}}{\text{6 years}}$

TABLE SIX

Net Site Preparation Accomplishments, Projections, and Weighted Tons/Acre of Fuel Consumption

	Gross Site Prep Acres Accomplished Through FY84	Percent Surface Area Burned	Net Acres Burned	Gross Site Prep Acres Projected FY85-89	Net Acres Projected to Burn	Percent of Total	Tons of Fuel Per Acre Consumed on Net Acres	Weighted Tons/Acre
DISTRICT								
Broadcast Burn	10,772	.85	9,156	27,850	23,672	98.0	18	17.6
Machine Pile	5,622	.11	618	3,436	378	1.6	282	4.5
Hand Pile	1,070	.02	21	5,439	109	.4	8.2	.1
No Burn	22,036			30,075	--			--
Total	39,500		9,795	66,800	24,159			22.2
JOSEPHINE								
Broadcast Burn	5,639	.85	4,793	16,587	14,099	99.9	18	17.9
Machine Pile	1,254	.11	138	--	--		282	--
Hand Pile	133	.02	3	274	6	.1	8.2	.1
No Burn	8,174			13,939	--			--
Total	15,200		4,934	30,800	14,105			18
JACKSON-KLAMATH								
Broadcast Burn	5,133	.85	4,363	11,263	9,574	95.2	18	17.1
Machine Pile	4,368	.11	480	3,436	378	3.8	282	10.7
Hand Pile	937	.02	19	5,165	103	1.0	8.2	.1
No Burn	13,862			16,136				--
Total	24,300		4,862	36,000	10,055			27.9

TABLE SEVEN

Cross Section Sample
Broadcast Burn Units

Master Unit	Timber Sale Name	Unit Number	Acres	Tons of Fuel/Acre			Weighted Average
				Before Burning	After	Total Burned	
J	Low East	1	31	37.7	27.5	10.2	.512
J	Low East	3	36	46.0	23.3	22.7	1.322
J	Cedar Wallow	5	22	47.7	18.3	24.4	.868
J	Cedar Wallow	1	25	38.0	19.2	18.8	.761
J	Cedar Wallow	2	20	40.5	21.4	19.0	.614
J	Cedar Wallow	3	38	33.7	19.3	14.4	.885
J-K	Fielder Mountain	1	11	30.4	10.2	20.2	.359
J-K	Foots Creek	7	20	37.0	10.1	25.9	.838
J-K	Quartz Box	1	39	37.0	15.9	21.1	1.332
J-K	Benson Gulch	1	8	20.0	17.3	2.7	.035
J-K	Texter	2	3	23.9	5.0	18.9	.092
J-K	Texter	C	8	23.9	10.4	13.5	.174
J-K	Cedar Mountain	1	33	25.9	4.0	21.9	1.169
J-K	Cedar Mountain	2	33	25.9	8.0	17.9	.956
J-K	Battle Creek	7A	11	22.2	8.9	13.3	.236
J-K	Right Rock	8	18	43.0	12.2	30.8	.897
J-K	Button Butte	1	13	18.2	11.3	6.9	.145
J-K	Swamp Divide	1	35	27.9	9.1	18.8	1.065
J-K	Alex-Palmer	C	32	27.2	13.4	13.8	.715
J	White Horse	3	9	42.7	17.7	25.0	.364
J	Gold Mountain	1	16	32.5	9.3	23.2	.603
J	Blown Panther	1	9	31.7	13.7	18.0	.262
J	White Horse	8	25	42.7	17.0	25.7	1.039
J	White Horse	9	16	42.7	22.0	20.7	.536
J	Walker Return	11	17	30.0	14.5	15.5	.426
J	Walker Return	5	15	20.0	7.5	12.5	.303
J-K	Beaver Return	1	55	30.0	15.5	14.5	1.290
J-K	Sugar Kane	19	20	11.0	4.0	7.0	.227
		Total	618	889.4	386.0	497.4	18.0
		High	55	47.7	27.5	30.8	
		Low	3	11.0	4.0	2.7	
		Average	13.8	31.7	13.8	17.7	

Source: BLM Medford District

TABLE EIGHT

Cross Section Sample
Hand Pile Units

			Tons of Fuel/Acre		
Master Unit	Timber Sale Name	Unit Number	Before Burning	After	Burned
J-K	Left Fielder	37A	8	0	8
J-K	Little Boulder	17-1C	10	0	10
J-K	Mayberry	9	8	0	8
J-K	Snake Swamp	4	8	0	8
J-K	Burton Butte	11	8	0	8
J-K	Ash Flat	1	8	0	8
J-K	South Salt	1-5	8	0	8
		Total	58	0	58
		High	10		10
		Low	8		8
		Average	8.2		8.2

Source: BLM Medford District

TABLE NINE

Cross Section Sample
Tractor Piles

Master Unit	Timber Sale Name	Unit Number	Gross Acres	Tons Per Acre Before Piling	Total Tons Per Unit	Net Acres 1/ in Burn Piles 2/	Tons Per Acre 3/	Weighted Tons Per Acre
J-K	Cold Johnson	1	75	30	2,250	8.25	272	12.165
J-K	Shasta 17	1	38	30	1,140	4.18	272	6.163
J-K	Shasta Regen.	1	52	35	1,820	5.72	318	9.860
J-K	Nameless Springs	3	118	35	4,130	12.98	318	22.376
J-K	Jenny Thin	1	40	35	1,400	3.85	363	8.659
J-K	Clover	SSA&B	150	25	3,750	16.50	227	20.304
J-K	Indian Prairie	SSA	275	40	11,000	30.25	363	59.526
J-K	Owen Lindsy	SSB	26	30	780	2.86	272	4.217
J-K	Cold Creek	SSB	200	25	5,000	22.00	227	27.072
J-K	Brush Mountain	1	10	40	400	1.10	363	2.165
J-K	North Surveyor	1	124	40	4,960	13.64	363	26.841
J-K	Upper Jenny	1	87	40	3,610	9.57	377	19.558
J-K	Indian Prairie	1	100	25	2,500	11.00	227	13.536
J	Deer Wreck	1	39	25	975	4.29	227	5.279
J	Russel Scar	1&2	22	20	440	2.42	181	2.374
J	Anchor RRSP	1	5	20	100	0.55	181	.539
J	Quines Creek	1	5	10	50	0.55	91	.271
J-K	Elk Glade	1	27	11	300	2.97	101	1.626
J	Walker Scar	1	66	28	1,848	7.26	254	9.996
J	Sourgrass	2	7	20	140	.77	181	.756
J	Hansen Saddle	1,2,3	74	25	1,850	8.14	227	10.017
J	Elk Cleanup	1,2	97	27	2,616	10.67	245	14.171
J	Brass Monkey	1,2	40	21	840	4.40	191	4.555
	Total		1,677			183.92	5,841	282.03

1/ Percent of ground covered by tractor piled slash was calculated with the following formula:

A. Average pile diameter approximately 32.5 feet
   A (acres) = R 2 (radius squared) = x 16.25 = 830 square feet (sq. ft.)

B. Average pile per acre = 6
   6 x 830 sq. ft. = 4,980 sq. ft.
   4,980 sq. ft. divided by 43,560 sq. ft. = 11 percent

C. Conclusion: average pile occupies
   11 percent of the acres piled

2/ Gross acres were reduced to 11 percent of the total to show net acres burned.

3/ Net acres were divided into total tons per unit to report concentrated slash.

TABLE TEN

Potential Emissions Caused by Slash Burning in the Josephine Sustained Yield Unit (JSYU)

Amount of slash that would be burned	Emissions produced by burning slash	Weight of emissions produced per ton of slash burned (lbs/ton)	Calculated weight of emissions produced by the proposal each year (pounds)	Volume of airshed (cubic miles)	Amount of emissions per volume of air (tons/cubic mile)	Existing level of emissions per volume of air (1975)	Potential increase
JFEIS							
31,500 tons/yr.	particulates	17	536,000 lb.	2,656	0.101	1.088	9.3 %
	carbon monoxide	60	1,890,000 lb.	"	0.356	7.598	4.7 %
	hydrocarbons (as C)	12	378,000 lb.	"	0.071	No data	–
	oxides of nitrogen	2	63,000 lb.	"	0.012	1.877	0.6 %
JSEIS 1/							
50,778 tons/yr.	particulates	17	863,226 lb.	2,656	0.163	1.088	14.9 %
	carbon monoxide	60	3,046,680 lb.	"	0.574	7.598	7.5 %
	hydrocarbons (as C)	12	609,336 lb.	"	0.115	No data	–
	oxides of nitrogen	2	101,556 lb.	"	0.019	1.877	1.0 %

1/ $\frac{\text{18 tons/acre x 14,105 net acres}}{\text{5 years}}$

TABLE ELEVEN

Potential Emissions Caused by Slash Burning in the Jackson/Klamath Sustained Yield Unit (J-KSYU)

Amount of slash that would be burned/year	Emissions produced by burning slash	Weight of emissions produced per ton of slash burned 1/ (lbs/ton)	Calculated weight of emissions produced by the proposal each year (tons)	Total annual weight of emissions from slash burning-1977 (tons/yr)	Total annual weight of emissions from all sources 1977 2/ (tons/yr)	Percent additional emissions from proposed action compared to that presently produced by slash burning	Percent additional emissions from proposed slash burning (compared to all sources)
J-KFEISs							
75,000 tons	particulates	17-67	635-2,500	1,130	4,520	56-220	14-55
	carbon monoxide	20-500	750-18,750	8,010	33,300	9-234	2-56
	hydrocarbons (as carbon)	10-40	375-1,500	-	no data	-	-
	oxides of nitrogen	2-6	75-225	250	6,262	30-90	1-4
J-KSEIS							
46,756 tons 3/	particulates	17-67	397-1,566	1,130	4,520	35-139	9-35
	carbon monoxide	20-500	468-11,689	8,010	33,300	6-146	1-35
	hydrocarbons (as carbon)	10-40	234-935	-	no data	-	-
	oxides of nitrogen	2-6	47-140	250	6,262	19-56	.8-2

1/ U.S. EPA 1978

2/ ODEQ 1976b (tons of emissions/year X $\frac{\text{area JKSYUs}}{\text{area AQCR}}$)

3/ $\frac{\text{26.2 tons/acre x 10,055 acres}}{\text{6 years}}$

TABLE TWELVE

A Comparison of Estimated Water Yield Between the JFEIS and this SEIS (Josephine Sustained Yield Unit)

Existing Situation (1979)		
	Total Area (ac. 1/)	856,844
	Annual Water Yield per Acre (AF 2/ /ac./yr.) 3/	2.0
	Annual Water Yield (AF/yr.)	1,713,688
	Water Yield for 10-year Period (AF/10 yr.)	17,136,880

Increase in Water Yield

	Clearcut		Shelterwood		Road Construction 7/	
	JFEIS	SEIS	JFEIS	SEIS	JFEIS	SEIS
Area (Harvest-acres, Road-miles)	5,000	33,800	50,000	12,200	500	360
Current Water Yield per acre (AF/ac./yr.) 4/ .	3.0	3.0	2.0	2.0	2.0	2.0
Percent Water Yield Increase 5/	40	40	25	33	100	100
Water Yield Increase per acre (AF/Ac.)	1.2	1.2	0.5	0.7	2.0	2.0
First Year Water Yield Increase (AF/yr.) . . .	6,000	40,560	25,000	8,540	8,680	6,250
Increased Water Yield for 10-year period (AF/10 yr.) 6/	18,000	121,680	75,000	25,620	86,800	62,500

Summary of Increased Water Yield for 10-Year Period (AF/10 yr.)

	JFEIS	SEIS
Clearcut	18,000	121,680
Shelterwood	75,000	25,620
Road Construction	86,800	62,500
Total Increase in Water Yield (AF/10 yr.) . . .	179,800	209,800

	JFEIS	SEIS
Percent Increase in Water Yield Over Existing Situation for 10-Year Period	1.0	1.2

1/ ac. - acre
2/ AF - acre feet
3/ Annual water yield for the JSYU is from the JFEIS pg. 3-24.
4/ Current water yields are from the JFEIS: clearcut pg. 3-24, shelterwood pg. 3-24; roads pg. 3-28.
5/ Percent water yield increase is from the JFEIS: clearcut pg. 3-24, shelterwood (JFEIS) pg. 3-24, shelterwood (SEIS) - obtained by interpolation between values for the JFEIS shelterwood and clearcut, roads pg. 3-28.
6/ Increased water yield is calculated for the 10-year period covered by the JFEIS. Assumptions are the same as those in the JFEIS: linear decrease in annual water yield over a five-year period (except roads which result in a permanent water yield increase) and all harvesting and road building occurs in the first year of the 10-year period.
7/ Roads - the factor used to convert linear miles of roads to acres of land was 8.68 which is used in the JFEIS pg. 3-28.

TABLE THIRTEEN

A Comparison of Estimated Water Yield Between the J-KFEIS and the FSEIS (Jackson-Klamath Sustained Yield Unit)

Existing Situation (1980)		
	Total Area (ac. 1/)	1,398,042
	Annual Water Yield per Acre (AF 2/ /ac./yr.) 3/	2.5
	Annual Water Yield (AF/yr.)	3,495,105
	Water Yield for 10-year Period (AF/10 yr.)	34,951,050

Increase in Water Yield

	Clearcut		Shelterwood		Road Construction	
	J-KFEIS	SEIS	J-KFEIS	SEIS	J-KFEIS	SEIS
Area (Harvest-acres, Road-miles)	4,000	21,500	60,000	38,800	375	350
Current Water Yield per acre (AF/ac./yr.) 4/	2.5	2.5	2.5	2.5	2.5	2.5
Percent Water Yield Increase 5/	40	40	25	33	20	20
Water Yield Increase per acre (AF/Ac.)	1.0	1.0	0.6	0.8	0.5	0.5
First Year Water Yield Increase (AF/yr.)	4,000	21,500	36,000	31,040	885	826
Increased Water Yield for 10-year period (AF/10 yr.) 6/	12,000	64,500	108,000	93,120	8,850	8,260

Summary of Increased Water Yield for 10-Year Period (AF/10 yr.)

	J-KFEIS	SEIS
Clearcut	12,000	64,500
Shelterwood	108,000	93,120
Road Construction	8,850	8,260
Total Increase in Water Yield (AF/10 yr.)	128,850	165,880

	J-KFEIS	SEIS
Percent Increase in Water Yield Over Existing Situation for 10-Year Period	0.4	0.5

1/ ac. - acre
2/ AF - acre feet
3/ Annual water yield for the J-KSYU is from the J-KFEIS pg. 3-9.
4/ Current water yields are from the J-KFEIS, pg. 3-9.
5/ Percent water yield increase from the J-KFEIS pg. 3-10 except for the SEIS shelterwood. The percent increase for the SEIS shelterwood obtained by interpolating between the values for the J-KFEIS shelterwood and clearcut.
6/ Increased water yield is calculated for the 10-year period covered by the J-KFEIS. Assumptions are the same as those in the J-KFEIS: linear decrease in annual water yield over a five-year period (except roads which result in a permanent water yield increase) and all harvesting and road building occurs in the first year of the 10-year period.
7/ Roads - the factor used to convert linear miles of roads to acres of land was 4.72 (from J-KFEIS).

TABLE FOURTEEN

A Comparison of Estimated Sediment Yield Between the JFEIS and this SEIS for Road Construction: Josephine Sustained Yield Unit

Road Construction

	JFEIS	SEIS
Miles of Road Construction	500	360
First Year Sediment Yield (tons) 1/	440,781	317,383
Total Yield Five Years After Construction (tons) 2/ . . .	1,322,343	952,149

The revised estimate for road construction would result in a 28 percent reduction in sediment yield estimated for the JFEIS.

1/ Assumptions include: First year sediment yield is 65,000 tons/square mile (JFEIS, pg. 3-34), and all road construction occurs during the first year of the ten-year period.

2/ Total yield is based on the assumption that the sediment yield for the lands subjected to road construction would decrease after the first year at an even rate to reach background sediment yield of 5,000 tons/square mile/yr. after five years (JFEIS, pg. 3-34).

TABLE FIFTEEN

A Comparison of Estimated Sediment Yield Between the J-KFEIS and this SEIS for Road Construction: Jackson-Klamath Sustained Yield Unit

Road Construction

	J-KFEIS	SEIS
Miles of Road Construction	375	350
First Year Sediment Yield (tons) 1/	1,245	1,162
Total Yield Five Years After Construction (tons) 2/ . . .	3,735	3,485

The revised estimate for road construction would result in a seven percent reduction in sediment yield estimated for the J-KFEIS.

1/ Assumptions include: First year sediment yield is 450 tons/square mile (J-KFEIS, pg. 3-11) and all road construction occurs during the first year of the ten-year period.

2/ Total yield is based on the assumption that the sediment yield for the lands subjected to road construction would decrease after the first year at an even rate to reach 200 tons/square mile/yr. after five years (J-KFEIS, pg. 3-11).

TABLE SIXTEEN

Medford District Stocking Standards: Plot Size to Obtain Target Level and Minimum Level Number of Well-Spaced Trees Per Acre

Site Class	Target Standard TPA 1/	Acre Fraction Equivalent 2/	Plot Radius	Minimum Standard TPA 1/	Acre Fraction Equivalent 2/	Plot Radius
II	320	1/533	5.1	150	1/250	7.5
III	280	1/467	5.5	150	1/250	7.5
IV	245	1/408	5.8	150	1/250	7.5
V	200	1/333	6.5	100	1/170	9.0

1/ Trees per acre (TPA)

2/ Acre Fraction Equivalent is determined by dividing the target or minimum standard acceptable number of well-spaced trees per acre by 60 percent.

Source: BLM Manual 5705.

TABLE SEVENTEEN

Trial Harvest Program

			OFFERED 3/				Total Acres LIM and LM Offered	Total 4/ Volume LIM and LM Offered
	FEISs 1/		LIM 5/		LM 5/			
	Acres	Volume 2/	CC 6/	SW 7/	CC	SW		
JSYU	5,000	90	305	1,551	110	25	1,991	34.9
J-KSYU	4,900	50	275	860	11	--	1,146	15.2
Total	9,900	140	580	2,411	121	25	3,137	50.1

1/ Decadal values from LIM acres.

2/ MM bd. ft. conifer volume.

3/ JSYU (80-85); J-KSYUs (81-85). No additional timber sales involving LIM and LM lands are planned for the remainder of the decade (FY86 - FY89 for JSYU and FY86-FY90 for J-KSYUs).

4/ Includes 3.1 MM bd. ft. from LM acres.

5/ LIM - Low Intensity Management
LM - Limited Management

6/ CC - Clearcut

7/ SW - Shelterwood

TABLE EIGHTEEN

Timber Sale Accomplishments: Acres Sold - High Intensity Management Lands

JOSEPHINE SYU

Harvest Method	80	81	82	83	84	TOTAL
	FISCAL YEAR					
Clearcut						
- Initial Entry 1/	279	488	686	1,247	1,021	3,721
- De facto	1,554	865	2,018	2,525	1,937	8,899
Shelterwood						
- Regeneration Cut	1,853	1,148	494	512	77	4,084
- Overstory Removal	1,148	323	842	912	675	3,900
Total	4,834	2,824	4,040	5,196	3,710	20,604 2/

JACKSON-KLAMATH SYUs

Harvest Method	81	82	83	84	TOTAL
	FISCAL YEAR				
Clearcut					
- Initial Entry 1/	527	328	681	1,180	2,716
- De facto	288	1,066	2,015	1,916	5,285
Shelterwood					
- Regeneration Cut	1,800	3,110	1,580	369	6,859
- Overstory Removal	1,044	4,046	2,624	2,677	10,391
Total	3,659	8,550	6,900	5,491	25,251 2/

District Total - 45,855 3/

1/ Includes right-of-way acreage.

2/ Total acreage could be adjusted due to Federal Timber Contract Payment Modifcation Act (P.L. 98-478).

3/ Included in decadal acreage estimates - Table One.

TABLE NINETEEN

Timber Sale Volume Offered (MMBF): High Intensity Management Lands

Fiscal Year	JOSEPHINE SYU Offered	JACKSON-KLAMATH SYUs Offered	DISTRICT Offered
1980	99	124.0	223.0 1/
1981	89	117.5	206.5 2/
1982	95	118.0	213.0
1983	93	115.0	208.0 3/
1984	78	107.0	185.0 4/
1985	82	117.0	199.0 5/

1/ Adjustment to balance Jackson-Klamath 1970s decadal harvest level.

2/ Decrease due to reduced budget.

3/ Decrease due to no herbicides.

4/ Decrease due to no herbicides and reduced budget.

5/ Decrease due to no herbicides.

TABLE TWENTY

Forest Development Accomplishments (Acres)

	JOSEPHINE SYU						JACKSON-KLAMATH SYUs					
TREATMENT	------ FISCAL YEAR -------					JOSEPHINE	---- FISCAL YEAR -----				JACKSON-KLAMATH	DISTRICT
ACTION	80	81	82	83	84	TOTAL	81	82	83	84	TOTAL	TOTAL
Planting	2,271	2,567	2,101	1,533	2,091	10,563*	4,291	2,801	2,593	4,664	14,349*	24,912*
-Initial	1,907	2,182	1,680	981	1,528	8,278	2,413	2,192	999	2,573	8,177	16,455
-Replant and Interplant	205	205	252	459	397	1,518	1,785	483	1,315	1,515	5,098	6,616
-Backlog	159	180	169	93	166	767	93	126	279	576	1,074	1,841
Fertilization	702	-0-	-0-	1,231	1,562	3,495*	-0-	-0-	-0-	2,644	2,644*	6,139*
Pre-commercial Thinning	30	98	1,620	2,216	2,190	6,154*	121	910	2,362	1,746	5,139*	11,293*
Commercial Thinning	130	35	116	196	287	764*	929	318	243	163	1,653*	2,417*
Site Preparation	3,117	1,666	1,793	1,047	2,542	10,165*	1,411	3,264	1,965	5,897	12,537*	22,702*
Protection	121	349	1,400	2,425	457	4,752*	320	1,855	1,601	2,833	6,609*	11,361*
Maintenance	358	588	607	733	746	3,032*	612	673	169	1,319	2,773*	5,805*
Release	510	406	1,280	103	175	2,474*	400	575	499	178	1,652*	4,126*
Herbicides	1,444	1,463	5,800	286	-0-	8,993*	1,357	2,211	241	-0-	3,809*	12,802*
-Aerial	1,444	1,359	5,141	-0-	-0-	7,944	1,266	1,918	-0-	-0-	3,184	11,128
-Ground	-0-	104	659	286	-0-	1,049	91	293	241	-0-	625	1,674
Stand Conversion	-0-	-0-	80	60	110	250*	85	-0-	40	217	342*	592*
						50,642					51,507	102,149*

Source: BLM, Medford District

* The sum of the numbers with an asterik equals the total acre accomplishments for the SYUs and the District.

APPENDIX C

Glossary

adverse visual impact - Any modification in land forms, water bodies, or vegetation, or any introduction of structures, which negatively interrupts the visual character of the landscape and disrupts the harmony of the basic elements (e.g., form, line, color, and texture).

allowable cut - The amount of forest products that may be harvested annually or periodically from a specified area over a stated period of time in accordance with the objectives of management. Generally the area is the sustained yield unit and the time period is a decade.

aspect - The direction a slope faces.

basal area - The area of the cross-section of a tree stem measured at breast height and inclusive of bark, and usually expressed as square feet per acre.

BF - board feet.

BLM - Bureau of Land Management.

CEQ - Council on Environmental Quality.

characteristic landscape - The established landscape within an area being viewed. This does not necessarily mean a naturalistic character. It could refer to an agricultural setting, an urban landscape, a primarily natural environment, or a combination of these types.

clearcut harvest - An even-aged method of timber harvest in which all trees (merchantable and/or unmerchantable) are simultaneously cut from the stand with the intent to establish a new crop of seedlings. As defined, clearcut harvest can take place in both virgin and previously entered stands. Medford District makes a distinction between initial entry clearcutting in virgin stands and clearcutting in stands previously entered (de facto clearcuts) under shelterwood systems. See Chapter I, Section D.1.a) and glossary entries for "initial entry clearcut" and "de facto clearcut".

contrast - Opposition or unlikeness of different forms, lines, colors, or textures in a landscape.

cultural modification - Any man-caused change in the land form, water form, vegetation, or the addition of a structure which creates a visual contrast in the basic elements (e.g., form, line, color, texture) of the naturalistic character of a landscape.

dbh - Diameter at breast height.

de facto clearcut - Clearcut harvest in stand that was previously entered and managed under a shelterwood system used prior to the implementation of the existing timber management plans. See Chapter I, Section D.1.a) and definition of "clearcut harvest" in this glossary.

DEQ - Department of Environmental Quality.

EA - Environmental assessment.

EPA - Environmental Protection Agency.

established stand - Reforestation units which consist of suitable trees which are growing and are past the time when considerable juvenile mortality occurs. They are no longer in need of measures to ensure survival but are evaluated for measures to enhance growth.

established tree - A suitable tree that is considered by the reforestation specialist to be in no danger of mortality due to animals, competing vegetation, or other causes.

even-aged management - Using either clearcut or shelterwood harvest systems to establish new stands of trees that are about the same age. Generally, age differences between individual trees within a unit do not exceed 10 to 20 years.

FEISs - Final environmental impact statements.

FIR - Forestry Intensified Research.

FLPMA - Federal Land Policy and Management Act of 1976.

form - The mass or shape of an object or objects which appear unified, such as a vegetative opening in a forest, a cliff formation, or a water tank.

habitat effectiveness - The effectiveness in which the life needs of a plant or animal organism, population, or community are supplied.

harmony - A combination of parts into a pleasing or orderly whole: congruity; a state of agreement or proportionate arrangement of form, line, color, and texture.

HIM - High Intensity Management. All commercial forest lands that comprise the timber production base for allowable cut calculations. These forest lands are suitable for continuous timber production with reasonable assurance of successful results from the application of intensive timber management practices. Regeneration can be accomplished within five years of harvest with artificial reforestation methods.

ID team - Interdisciplinary team.

initial entry clearcut - Clearcut harvest in stand that is generally virgin and unmanaged with no prior entry (outside of light mortality salvage harvesting). See Chapter I, Section D.1.a) and definition of "clearcut harvest" in this glossary.

J - Josephine.

J-K - Jackson-Klamath.

J-KSYUs - Jackson-Klamath Sustained Yield Units.

JSYU - Josephine Sustained Yield Unit

landscape character - The arrangement of a particular landscape as formed by the variety and intensity of the landscape features and the four basic elements of form, line, color, and texture. These factors give the area a distinctive quality which distinguishes it from its immediate surroundings.

LIM - Low Intensity Management. Commercial forest lands that are excluded from the timber production base since regeneration is expected to exceed five years after harvest. These lands comprise a portion of the trial harvest program.

LM - limited management.

maintenance - Management Framework Plan and supporting components are maintained as necessary to reflect minor changes in data. Such maintenance is limited to further refining or documenting a previously approved decision incorporated in the plan (see 43 CFR 1610.5-4).

management activity - A surface disturbing activity undertaken on the landscape for the purpose of harvesting, traversing, transporting, protecting, changing, replenishing, or otherwise using resources.

MBF - Thousand board feet.

MFP - Management framework plan.

microsite modification - Modification of the immediate environment of new seedlings by reduction of the ground temperature around the seedling through the use of artificial or natural shade.

mid-tolerance species - Tolerance refers to the ability of a species to reproduce and grow under different light intensities. Tolerant species such as true firs can reproduce and maintain steady growth at low light intensities. Mid-tolerant species such as Douglas-fir are not very tolerant of shade, requiring and performing best with full sunlight in relatively open conditions.

minimum stocking - The minimum acceptable number of well-spaced trees per acre at final harvest age (BLM Manual 5705).

MM - Million.

MMBF - Million board feet.

NEPA - National Environmental Policy Act.

O&C Act - Oregon and California Act of 1937 (Revested Oregon and California (O&C) Railroad and Reconveyed Coos Bay Wagon Road Grant Lands).

OSDF - Oregon State Department of Forestry.

ODFW - Oregon Department of Fish and Wildlife.

OI - Operations Inventory.

overstory removal - The final stage of cutting (the second cut of a two-stage shelterwood or the third cut of a three-stage shelterwood) where the remaining overstory trees are removed with the intent to release the understory regeneration. Overstory removal is generally accomplished three to five years after artificial reforestation activities and when adequate stocking has been achieved.

OSU - Oregon State University.

OSO - BLM Oregon State Office.

PCT - Precommercial thinning.

Programmatic EA - An environmental assessment prepared to analyze a specific program. A programmatic EA describes discrete operations of the program and general impacts.

reforested - Regenerated.

regeneration cut - The first cut in a two-stage shelterwood or the second cut in a three-stage shelterwood designed to open up the stand to enable and promote reforestation and subsequent overstory removal without incurring unacceptable damage to new seedlings. The remaining overstory trees are left to modify the ground environment of new seedlings.

ROD - Record of decision.

scenic quality - The relative worth of a landscape from a visual perception point of view.

seen area - That portion of the landscape which is visible from roads, trails, rivers, campgrounds, communities, or other key observation positions.

shelterwood harvest - An even-aged method of timber harvest in which all trees, merchantable and/or unmerchantable, are cut from an area through a sequence of partial cuts with the intent to establish a new crop of seedlings under the protection of the remaining overstory trees.

silvicultural prescription - A document that identifies the management objectives of a given timber sale area; the area's physical, biological, and management constraints; and that prescribes specific treatments necessary to establish, protect, and maintain the growth and development of new plantations.

site class - A measure of the relative productive capacity of a forest area. Seven site-quality classes, indicated by Roman numerals, are used to designate the comparative productive capacities in descending order; Site I being the best, Site VII being the poorest.

skeletal - A name for a group of soils that have more than 35 percent gravel or cobbles in the soil profile.

SOMA - Spotted Owl Management Area.

stocked - A reforestation unit in which at least 60 percent of the area is occupied with well-spaced, suitable trees to either target or minimum stocking standards as described in the BLM 5705 (Oregon State Office): "Reforestation Stocking Surveys."

stocked-established - An established stand which meets the target or minimum stocking standards of well-spaced trees per acre. Trees are no longer in need of special protection from frost, drought, competing vegetation, or animal damages.

stocked-unestablished - An unestablished stand which meets the target or minimum stocking standards of well-spaced trees per acre. Trees are still in danger of juvenile mortality and may require stand maintenance practices to ensure survival.

STORMS - Solutions To Operations and Reforestation Monitoring Systems. The combination of reforestation records and operations inventory data into one computer-based integrated system.

suitable tree - A commercial coniferous species, identified in stocking surveys as adapted to the site, considered capable of meeting forest management objectives by producing a merchantable product in a reasonable length of time. The tree should not exhibit undue "off-site" characteristics, disease, erratic growth, damage, or poor color. It qualifies as a component of the new stand by having survived at least one growing season in the field.

SYUs - sustained yield units.

target stocking - The desirable number of well-spaced trees per acre at age of first commercial thinning (BLM Manual 5705).

T & E - Threatened and endangered.

TMPs - Timber management plans.

tolerance - The capacity of a tree to develop and grow in the shade of and in competition with other trees.

TPA - Trees per acre.

TPCC - Timber Production Capability Classification.

unestablished stand - Reforestation units which consist of suitable trees which are still in danger of juvenile mortality and may require stocking maintenance practices to ensure survival.

understocked - Situation when less than 60 percent of the reforestation survey plots on commercial forest land are stocked with one or more suitable trees to minimum stocking standards.

USDI - United States Department of the Interior.

USFS - United States Forest Service.

visual resource management classes - Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes (I, II, III, and IV). Each class has an objective which prescribes the amount of change allowed in the characteristic landscape.

visual resources - The visible physical features on a landscape (e.g., land, water, vegetation, animals, structures, and other features).

viewshed - The landscape that can be directly seen under favorable atmospheric conditions, from a viewpoint, or along a transportation corridor.

VRM - Visual resource management.

APPENDIX D

SUMMARY OF THE PROPOSED ACTIONS AND ALTERNATIVES IN THE JOSEPHINE AND JACKSON-KLAMATH FINAL TIMBER MANAGEMENT ENVIRONMENTAL IMPACT STATEMENTS

JOSEPHINE PROPOSED ACTION

The proposed action is a ten-year timber management plan for public lands administered by the Bureau of Land Management in the Josephine Sustained Yield Unit (JSYU), Medford District, Oregon. In the plan, the Bureau of Land Management (BLM) proposes an annual timber harvest of 20.10 million cubic feet (approximately 103 million board feet Scribner Log rule)* to be accomplished by two-stage shelterwood and clearcut methods. Also included in the proposal are reforestation, herbicide application, slash disposal, road construction, thinning, and fertilization (see pages 1-1 through 1-69 of the FEIS).

JOSEPHINE ALTERNATIVES

Alternative No. 1 - No Control of Competing Vegetation

This alternative differs from the proposal in that no attempt would be made to control grass, brush, or hardwood species growing in competition with commercial coniferous tree species. This would eliminate treatments for the control of competing vegetation both prior to reforestation (site preparation) and after young stands become established (stand release). (See pages 8-1 through 8-11.)

Alternative No. 2 - Control of Competing Vegetation with All Approved Herbicides Except Silvex

This alternative would yield the same annual harvest as the proposed action.

It differs from the proposal in that silvex would be precluded as a herbicide for use in the control of competing vegetation. (See pages 8-11 through 8-15.)

Alternative No. 3 - Limited Investment in Timber Production

This alternative differs from the proposal in that management practices would be limited to those associated with final timber harvest and artificial reforestation. Planned practices would include road construction, shelterwood harvest and clearcutting, slash disposal, site preparation (with herbicides where warranted), and planting. (See pages 8-16 through 8-20.)

Alternative No. 4 - Utilization of Surplus Inventory

This alternative would direct the sale of the maximum amount of timber possible during the first decade without diminishing the sustainable harvest in the decades beyond. The objective would be to assist in meeting anticipated short-run national housing needs and to cushion the effect of the proposed allowable cut reduction.

Alternative No. 5 - Forestry Program for Oregon

This alternative would direct the sale of 22.87 MM cu. ft. (117 MMBF) from high intensity lands and 1.76 million cubic feet (9 MMBF) from low intensity lands in the first decade. (See pages 8-26 through 8-32.)

Alternative No. 6 - Zane Grey Wilderness Study Area

This alternative provides for removal of approximately 7,800 acres of high intensity timber management land from the base upon which the proposal was calculated pending study to determine the suitability of the Zane Grey area for wilderness designation. (See pages 8-22 through 8-38.)

Alternative No. 7 - No Action

This alternative assumes continuation of the current level of timber management on the Josephine SYU; that is, continuation of the current allowable cut of 28.63 MM cu. ft. (146 MMBF) on the present timber management base of 334,500 acres. (References pages 8-38 through 8-44.)

*Volume was revised as of December 11, 1981 (see Amendment Number 1 to Record of Decision, Chapter I, Section C.).

JACKSON-KLAMATH PROPOSED ACTION

The proposed action is a 10-year timber management plan for public lands administered by the Bureau of Land Management in the Jackson and Klamath Sustained Yield Units (JKSYUs, SYUs), Medford District, Oregon. In the plan, the Bureau of Land Management (BLM) proposes an annual timber harvest of 20.55 million cubic feet (approximately 120 million board feet Scribner Log rule)* to be accomplished by two-stage shelterwood, clearcut, and single tree selection methods. Also included in the proposal are reforestation, herbicide application, slash disposal, road construction, thinning, and fertilization. (See pages 1-1 through 1-54 of the FEIS.

JACKSON-KLAMATH ALTERNATIVES

Alternative No. 1 - No Control of Competing Vegetation

This alternative differs from the proposal in that no attempt would be made to control grass, brush, or hardwood species growing in competition with commercial coniferous tree species. This would eliminate treatments for the control of competing vegetation both prior to reforestation (site preparation) and after young stands become established (stand release). (See pages 8-3 through 8-10.)

Alternative No. 2 - Limited Investment in Timber Production

This alternative differs from the proposal in that management practices would be limited to those associated with final timber harvest and artificial reforestation. Planned practices would include road construction, shelterwood harvest and clearcutting, slash disposal, site preparation (with herbicides where warranted) and planting. (See pages 8-11 through 8-16.)

Alternative No. 3 - Utilization of Surplus Inventory

This alternative differs from the proposal in that surplus growing stock which contributes nothing to the attainable level of sustained yield allowable cut would be harvested at an accelerated rate. Surplus growing stock is in excess of that needed in allowable cut calculation to provide constant or increasing timber supply over time (see Section 1.2.6.2). Utilization of the surplus on a shorter timeframe would only slightly hasten achievement of a regulated forest in the JKSYUs due to the present distribution of age classes. (See pages 8-16 through 8-26.)

Alternative No. 4 - Forestry Program for Oregon

This alternative would provide the Jackson and Klamath SYUs pro rata share of BLM timber harvest called for in the Forestry Program for Oregon (Oregon State Board of Forestry 1977). (See pages 8-27 through 8-31.)

Alternative No. 5 - No Action

This alternative specifies continuation of the current level of timber management. That means continuation of the present allowable cut of 21.93 MM cu. ft. (128 MMBF) which was computed in 1970 from a commercial forest base of 327,270 acres. (See pages 8-31 through 8-36.)

*Volume was revised by December 11, 1981 (see Amendment Number 1 to Record of Decision, Chapter I, Section C.).

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